CONVALESCENCE

HISTORICAL AND PRACTICAL

JOHN BRYANT

UNIVERSITY OF MAINE
LIBRARIES

RAYMOND H. FOGLER LIBRARY
GIFT OF
George T. Carlisle

CONVALESCENCE

CONVALESCENCE

HISTORICAL AND PRACTICAL

BY

JOHN BRYANT, M.D.

THE STURGIS FUND
of
THE BURKE FOUNDATION
New York
1927

Copyright, 1927
The Sturgis Fund
of
The Burke Foundation
New York

PREFACE

THIS book is a result of two causes. Firstly, the writer is convinced that during the past thousand years and more, the convalescent patient has not been getting a square deal. Secondly, the Directors of the Burke Foundation have been experiencing a growing need for a single and more or less authoritative and comprehensive volume upon the subject of Convalescence; they have even felt handicapped for lack of such a volume which could be used for distribution, especially in the New York area, among those professional and lay persons who begin to perceive the impossibility of carrying on a satisfactory grade of preventive public health work in the absence of adequate arrangements for the care of convalescence.

Aside entirely from any possible inherent value, the book may claim one distinction. It is unique in that it is today the only bound volume in any known language, which, covering both the historical and the practical aspects of convalescence, is concerned exclusively with the cause of better convalescent care.

Originally thought of merely as a bound second printing of a series of reprints covering, in chronological order, the historical and recent practical aspects of work in the field of convalescence, the scope of effort has been gradually enlarged.

It is believed that in its present form, the volume may be viewed as a reasonably complete source book covering broadly and up to July, 1927, all important developments bearing upon modern progress in the care of convalescence.

As compared with the original reprints, numerous corrections and additions will be noted in the text. Also, there have been added photographs and plans of some of the more important existing and projected convalescent institutions both here and abroad, on the ancient Chinese principle that one illustration is worth ten thousand words. The illustrations of the European institutions are not elsewhere available in medical literature, their originals having been obtained by the writer during visits to Europe in 1922 and 1924.

Adequate convalescent care is today admitted to be essential to the successful completion of any modern community health program. Convalescence is, in a word, the eye of the needle through which must be passed all persons who, having been sick, would find health.

Furthermore, adequate convalescent care is today the only known way of preventing the already excessive numbers of half-cured patients from increasing, as it is the only known alternative to a continual increase in the number of beds which every community must provide for its chronic sick who have ceased to belong to the group of self-supporting wage earners.

Yet even today, the exponent of adequate convalescent care frequently finds himself enveloped in a fog of apathy as heavy and as depressing as the proverbial wet blanket. The time is slowly but surely arriving however, when it will be impossible for any community to rate high in any health survey, unless it can point to the existence of its minimum quota (10%) of convalescent beds, with this minimum quota constantly filled to overflowing with patients, cheerfully and rapidly convalescing.

For authority to republish the original articles in book form, the writer is indebted to the ever-courteous editors of the *Boston Medical and Surgical Journal.*

No reference to the Burke Foundation would be acceptable, which failed to note the degree to which the writer has been placed under obligation to its Directors and Staff, during the nearly ten years of intensive effort which has resulted in the present publication. This is especially true as regards Mr. Frank A. Sturgis, Dr. Lewis A. Conner, and last but by no means least Dr. Frederic Brush. Being of both a moral and material nature, the indebtedness is herewith the more gratefully acknowledged.

None of the illustrations are original, and their sources are almost as numerous as the illustrations themselves. It is therefore impossible to do more than acknowledge with gratitude a general and wide spread indebtedness for all illustrations utilized in the text. A word of appreciation is due Mr. Frederick Scherer, who has turned out a rather uniform series of plates from a very promiscuous collection of material. This material has included photographs, post cards, illustrations from old reports, and wash drawings by architects. Especially, the quality of the completed plot plan (Plate No. 24) of Vésinet is worth noting; some picture post cards and a rough tracing

by the writer (on butcher paper offered by the kindly wife of the concierge), transferred from Paris to Boston, suggestions of the plot plan of Vésinet; the tracing was here ingeniously worked up into a presentable architect's wash drawing by Mr. H. Daland Chandler, and the matching of the plot plan to the finish of that of Vincennes was accomplished through the skill of Mr. Scherer.

If the volume is to prove useful as a source book, an index is essential. The character and quality of the index evidences the experience and efficiency in this direction, of Mr. J. F. Ballard, Assistant Librarian of the Boston Medical Library.

The writer will feel repaid for his efforts, in proportion as the reader is stimulated to dig deeper into the vital and universal problems of convalescence; and in proportion as such digging may tend to lessen the medical neglect so often meted out to the convalescent patient who, precisely because he grows less acutely ill, so often seems to grow progressively less interesting to the physician immersed in the subtleties of latter-day medical science.

The antithesis of the laboratory viewpoint of clinical medicine, and the essence of all that is best in all convalescent and other human care of the sick patient, is summed up in the recent Confucian observation of Dr. Francis Weld Peabody, (*J. A. M. A.*, March 19, 1927), to the effect that "the secret of the care of the patient is in caring for the patient." This kind of clinical care, the only kind worth while because the only kind capable of ministering both to the material body and the spiritual soul of the sick human being, is the kind of convalescent care to the more rapid promotion of which this volume is dedicated.

Boston, Mass.
September, 1927.

CONTENTS

PART I

		Page
I.	A Chronological Review, to 1878	1
II.	A Chronological Review, 1878 to 1917	27
III.	A Chronological Review, 1917 to 1920	39
IV.	The Winifred Masterson Burke Relief Foundation	51
V.	The Cleveland Hospital and Health Survey	67
VI.	Houses of Rest in Russia	101

PART II

I.	Notes on Convalescent Work in the U. S. Army	111
II.	Notes on Convalescent Work in the U. S. Army *(Continued)*	137
III.	Notes on Convalescent Work in the U. S. Army *(Concluded)*	157
IV.	Medical Aspects of Surgical Convalescence	175
V.	A Problem in Preventive Medicine and Public Health	195

PART III

I.	Progress Report, 1920 to 1927	223

Index 263

ILLUSTRATIONS

Plate Number		Facing Page
1	VINCENNES—Bird's-Eye View, 1857, *(Frontispiece)*	1
2	METROPOLITAN CONVALESCENT INSTITUTION OF LONDON Country Home for Adults at Walton	8
3	Seaside Branch for Women at Bexhill-on-Sea	8
4	Children's Branch at Broadstairs	9
5	New Home for Men at Bexhill-on-Sea	9
6	THE LIVERPOOL CONVALESCENT INSTITUTION Balconies, Covered Porches, Broad Walks	10
7	Auditorium for Services, Lectures, Entertainments	11
8	VINCENNES—Plot Plan, 1857	12
9	Floor Plan, 1857	13
10	Bird's-Eye View, 1924	14
11	Arrival of Patients from Paris	14
12	Bedroom	15
13	Dining-Room	15
14	Amusement Hall—Games and Recreation Indoors	16
15	Theatre and Lecture Hall	16
16	Library	17
17	South Wing	17
18	Southern Facade, 1858	18
19	West Wing, 1903	18
20	New Infirmary, 1905	19
21	Outdoor Games—Bowling	19
22	West Wing, 1858	20
23	Return of Patients to Paris	21
24	VESINET, Plot Plan, 1857	22
25	Cows, Pastures, Trees	22
26	Central Dome, Containing Chapel	22
27	Southern Facade	23
28	Southeast Wing—for Mothers with Infants	23
29	Work and Recreation Hall	24

Plate Number		Facing Page
30	Dining-Room	24
31	Vegetable Garden	25
32	Central Court and Northern Approach	25
33	The Burke Foundation—General View	51
34	Plot Plan, 1915; and Bird's-Eye View	52
35	City Admission Office	54
36	Waiting and Rest Rooms—City House	54
37	The Start to the Country	55
38	Thirty-Passenger Bus Arriving at Administration Building	55
39	The Central Court	56
40	Early Spring in the Woods	57
41	Occupational Therapy—Sewing	58
42	Occupational Therapy—Vegetable Preparation	58
43	Occupational Therapy—Spring Planting	58
44	Occupational Therapy—Upkeep	58
45	Occupational Therapy—Garden Work	58
46	Occupational Therapy—Concrete Walk Construction	58
47	One of the Playgrounds	59
48	Portable Backstop	59
49	Horseshoe Pitching	59
50	Croquet Tournament	59
51	Short Golf Tournament	59
52	High School Girls' Hockey Team	59
53	Out-Terrace Dancing	60
54	Lawn Games	60
55	Reminiscence	60
56	Winter Upkeep—Both Sexes Helping	60
57	The Curative Out-of-Doors-in-All-Weathers	60
58	Winter Convalescence is Successful	60
59	Supervised Coasting	61
60	Winter Sports—Skiing	61
61	A Stormy Day Indoors—Youth Amuses Age	61
62	Cardiac Dance Class	61
63	Basketry	61
64	Canteen	61
65	Library	62
66	Wood Shop	62

Plate Number		Facing Page
67	Cardiac Boys in Toy Shop	62
68	Tailor Shop	63
69	Shoe Repair Shop	63
70	Cement Ware	63
71	Russian House of Rest, 1926	101
	Chart I—Convalescent Department (1918); Walter Reed General Hospital—Pulse Record: Patient With "Irritable" Heart	119
72	Consultation on Construction	126
73	Clearing Ball Field	126
74	Indoor Baseball	126
75	Pitching Horseshoes	127
76	Pitching Horseshoes—Close Decision	127
77	Croquet	127
78	Academic Work—Elementary	130
79	Academic Work—Advanced	130
80	Clearing the Garden—Prescribed Outdoor Work	131
81	Shop Work—Indoor	131
82	Shop Work—Outdoor	131
	Table I—Occupational Therapy Section, Division of Physical Reconstruction, S.G.O.—Tabular View, December 1918 to June 1920	164
	Table III—Total Patients in Hospital and Total Patients in Educational Work	165
	Table IV—Actual Enrolments in Ward Work	164
	Table V—Actual Enrolments in School and Shop Work	165
	Table VI—Ward Work—Percentages of Total Monthly Enrolments	164
	Table VII—School and Shop Work—Percentages of Total Monthly Enrolments	165
	Table VIII—Coefficient of Variation in Utilization of the Five Sections of Occupational Work	166
83	The Medical Center, New York—Location of Proposed Convalescent Department *(Letter M)*	234
84	Ground Floor Plan	236
85	Second and Third Floor Plans	237
86	Fourth Floor Plan	238
87	Dunwoody Home, Philadelphia—General View, 1925	256

Plate Number		*Facing Page*
88	CHICKERING HOUSE, DEDHAM, MASS., 1911—General View; Utilization of Farm House Property	257
89	Homelike Atmosphere	257
90	Outdoor Walks	257
91	Recreation	257
92	NEW YORK HOSPITAL FOR JOINT DISEASES. Country Home at Far Rockaway, L. I.—Utilization of Private Residence	258
93	Heliotherapy on Veranda	258
94	ST. LUKE'S CONVALESCENT HOSPITAL, GREENWICH, CONNECTICUT—Bird's-Eye View, 1927	259

PLATE 1—BIRD'S-EYE VIEW—1857

VINCENNES. CONVALESCENT HOSPITAL FOR MEN OF

PART I

I

A Chronological Review, to 1878*

Introduction

The general subject of Convalescence occupies a rather unique position. On the one hand, the early recognition of the importance of this transition stage between sickness and health is witnessed by the writings of Hippocrates and his successors; and appreciation of the necessity for giving organized consideration to the period of convalescence had already reached such a stage that in Paris both the Hôtel-Dieu and the Charité Hospital, in 1640 and 1650, made special provision for the care of convalescent patients. On the other hand, although there doubtless are in the literature numerous references to various aspects of convalescence under other titles, and although in 1877 a French reference by Brochin[2] listed a bibliography of 136 titles, there were available to 1920 in both the Index Medicus and the Index of the Surgeon-General's Library, a total of only ninety-two articles listed under the general title of Convalescence.

This absence of any extensive literature seems accurately to mirror the chronic apathy of the medical profession with regard to serious interest in the subject of convalescence,—a lack of interest which is doubtless promoted by inadequate instruction in the subject at all medical schools. This lack of instruction is perhaps itself in part based upon the fact that the period of convalescence is not a subject well adapted to easy demonstration in the clinic or lecture room; obviously, where changes are demonstrable in weeks rather than in days or hours, there is nothing comparable for teaching purposes to the visibility of a broken leg, or the acoustic demonstration of the flatness of a lobar pneumonia as indicated by a slap on the back with the flat of a hand.

The total result of this lack of interest is that with the exception of a few shining examples such as the Burke Foundation, care of

* Bryant: Boston Med. and Surg. Jour., 1922, clxxxvii, 653.

convalescent patients has for the most part been left to drift by itself without intensive medical supervision; in consequence, this is almost the only branch of medicine which has made minimal progress in the last fifty years or more.

It is now authoritatively stated that every city should provide beds for convalescent patients in the ratio of 1 : 10 acute hospital beds. Nearly all cities fall far below this estimate in their provision for convalescents, yet even such Homes for this class as do exist are for the most part not used to capacity, and almost none are under the daily care of an interested and experienced physician. The result is that the funds of such institutions for convalescents as do exist are not used to best advantage; the patients either waste their own time or it is wasted for them and they are sent back to work in a condition of health less good than they had a right to expect to find themselves in, at the conclusion of a definite period of care which should average about three weeks. Bridgman[1] has proved that the average patient who has previously been sufficiently ill to require the average stay of 18-20 days in an acute hospital, has also been sufficiently ill to require an additional average period of three weeks of intelligent care during convalescence; not otherwise can this average patient be considered to have sufficiently recovered his health, to make it reasonably certain that he can successfullly hold down a permanent job.

Not only is a lack of medical interest in convalescence noticeable in individual institutions, but such knowledge as has been accumulated is not passed on from generation to generation. Thus, although definite convalescent experience was acquired, for example, by England during the Crimean War, and by this country during the Civil War, practically all the nations engaged in the recent World War failed to profit by such previous experiences; this resulted in decreased efficiency of the war machines and necessarily increased wreckage of the individuals thus neglected. Running true to form, it appears that we are already in a fair way to forget what we have learned with regard to convalescence from our own most recent war experiences, before the next disaster arises.

One object of the present series of publications will have been accomplished in so far as it results in converting the prevailing attitude of passive neglect, into one of active, not to say aggressive, interest in the convalescent patient and chronic invalid. Such a change in the general viewpoint can be based only upon a widespread knowledge

that more can be done than in the past has been done, upon how to do it, and upon the reasons why it should be done. That more can be done than has been done, will be shown hereafter; also, how it may be done, or at least some ways of doing it.

The reasons why it should be done, or the more obvious of them, will be clear to anyone who will consider the subject for even a moment. There are three points of view; that of the community, the hospital, and the individual patient.

To the community, the individual represents in varying degree and in accordance with his total value as a moral physical and economic efficiency unit, an asset, a cipher, or a potential or actual liability. Every working day lost interferes by just so much with the industrial efficiency of the community in which the sick man lives. The economic loss may be figured out at the end of a week or of a year, and should in some way be made good, either through previous earnings of the patient, or at the expense of some other person or organization.

The hospital point of view includes that of the social workers and the poor relief agencies. On the one hand, with every unnecessary day passed in hospital there is a double financial loss: the institution itself is put to unnecessary expense which must eventually be made good through additional requests for financial support from its benefactors; and the patient is deprived of just one additional day's wages which he would have earned if physically able to be back on his job again. On the other hand, if the patient is discharged too early in recovery, he again becomes an object of obligatory interest to the social worker and the relief agency, by whom arrangements must be made for the financial support of perhaps not only the patient but his dependents until such time as full working power is re-established in the patient; here again, the financial loss is double, since to the outlay by the relief agency must be added the loss in wages of the worker.

The individual patient has a point of view in no wise different from that of the community or the hospital except that it is necessarily more personal, for in this case also the problem of convalescence may be reduced to the common denominator of costs. Even in the distant past, Plato knew that the poor man had no time to be sick, and a century ago Robertson[9] wrote that "for the feeble and disabled of our manufacturing population, poverty renders lingering sickness

in every instance a heavy and often an irretrievable calamity." But in the case of the individual, precisely because the point of view is more personal, there is proportionately more mental suffering which may easily in its turn become a very real factor in delaying still further the actual convalescence of the patient.

From every point of view, therefore, there is but one conclusion. Putting aside all sentimental, moral, ethical or other considerations, it can be demonstrated that the active and intelligent care of convalescence will pay utilitarian dividends; in a word, the community which invests money in improving the care provided for its workers during convalescence, will earn regular and continuous returns no less certainly than if the same amount of money had been invested in government bonds. With even greater certainty, such a community will be storing up treasures of another kind for itself, of immediate and increasing value, in the shape of the multiplying health, happiness and prosperity of its individual workers.

To facilitate to the greatest possible extent the dissemination of interest in any subject, easily available knowledge is necessary.

Information upon the subject of convalescence is, however, not easily available. On the contrary, it is for the most part rather well buried in old or foreign literature, or in hospital reports not widely known.

With the above facts in mind, the following review of the earlier literature is presented. It is to be the first of a series of papers upon various aspects of convalescent work. It is hoped that these papers may to some extent supply the available information upon the existence of which must depend a rational and effective growth of interest in a vital phase of modern preventive medicine.

1732-1800

The Surgeon-General's Index gives only seven titles under "Convalescence," previous to the year 1800. Of these only one, the earliest, was available at the Boston Medical Library. This was a graduation thesis by Heylerus[6], published in Leipsic in 1732 under the title *"De Statu Convalescentiæ."*

Heylerus gave a general review of various types of disease, and presented a list of drugs and foods which might aid in convalescence; his thesis was, however, mostly given over to abstracting the opinions of earlier authorities. Thus, Celsus advised rest after meals. Hip-

pocrates was quoted frequently; among other things he advised moderation in exercise. Sydenham referred to the importance of hygiene. Seneca insisted upon peace of mind. Galen advised riding and travelling. Hoffmannus referred to the necessity for tranquil sleep, in promoting a return to health. In addition, Calcedonius, Solon, Cato, Wedelius and various other early notables were quoted in what was essentially a summary of all knowledge which in the year 1732 might be brought to bear to improve the care of convalescence.

1800-1878

The example set by Heylerus in writing a graduation thesis upon the subject of convalescence seems to have been followed extensively at the French universities during the first half of the last century; at least, the majority of the titles in the Surgeon-General's Index under "Convalescence" dating from this period, are of this character. This seems to have been a symptom of an increasing interest in convalescence in these earlier years of the last century, for numerous articles upon the subject were written not only in France but in England and America. Two of the graduation theses will suffice to suggest the sympathetic attitude of the French toward the convalescent patient of the early nineteenth century.

Fourcade[5] wrote in 1802, under the title *"Dôit-on laisser les Convalescents avec les Malades?"* This is a question which is today no less fundamental although perhaps less obvious than at a time when the patients were more likely to die than live if they remained in hospital a single unnecessary day after the termination of the acute stage of disease. Fourcade appreciated the fact that "convalescents, who in their feebleness approach the condition of infants or the elderly, must have food appropriate for these persons." He also recognized that "food in its passage through the hospital halls acquires disagreeable odors in spite of all precautions," and that "for this reason alone the convalescents should be separated from the sick." He emphasized the necessity for moral as well as physical care, and stressed the value of light and air as aids to returning health. The necessity for light, he placed also upon the special basis of avoidance of the fears which might be engendered by remaining in darkness or in a darkened room. Games and amusements were highly recommended as promoting "the tranquil spirit necessary for recovery," and Fourcade firmly believed that "all causes tending toward fear or depres-

sion must be avoided or excluded in order to promote a favorable psychic state." He, therefore, logically concluded that "for every conceivable reason, the convalescents should be separated from the sick."

A few years later, Maret[8] in 1834 wrote upon *"Considérations Générales Sur La Convalescence."* He, too, mentioned the "capriciousness" of the appetite of the convalescent. In addition, he referred to the characteristic increased nervous irritability, the poor circulation and the muscular exhaustion progressing at times to a point where the "least movement causes pain and fatigue." The poor memory of the convalescent and the failure of the imagination were noted, as also the fact that an attempt to walk might result in such trembling as to make it impossible for the weakened patient to sustain his own body weight. In the way of treatment, fresh air and sunshine were considered absolutely necessary, but it was appreciated that "cold is the enemy of the nerves"; consequently the use of woolen clothing was advised. Also, Maret approved the use of simple but good food, and controlled exercise for the improvement of the muscular system. Maret further realized that drugs were seldom needed, that occupation was desirable, and that depression must be avoided; concluding, he emphasized the fact that fundamentally recovery depends upon the "regaining of moral and intellectual control over the body."

The undesirability of promiscuous drugging was recognized by Cook[3], writing in this country in 1833. Cook also well understood the fact that many convalescent patients were brought almost to a point of death or at least to the point of retardation of expected progress by well-meaning but over-officious friends. Leaving the undesirable ministrations of friends out of consideration, however, he was confident that improper bowel action was the fundamental cause of delayed convalescence. He realized that moderation in diet was necessary; if there were no appetite, he believed that food should not be forced since it merely resulted in "a heavy stomach, wind, sour fluid, griping, and looseness." Exercise, he held to be important, but knew it to be equally important that the exercise should not cause the patient actually to overdo. He intended, therefore, to hold the patient back from exercise rather than to force him beyond his strength, saying that where health prevailed ambition and desire would soon enough return. The following observation by

Cook concerning the use of opiates in insomnia will bear repetition. "Insomnia is due to too much appetite and too little exercise. It is a small inconvenience, which may be lightened very much not by yielding to impatience about it, but by giving over one's mind to thinking upon those important subjects which every man of sense ought to be glad of an undisturbed opportunity of considering."

In England at this period, various writers were alive to the importance of the care of convalescence,—as witness an article by Robertson[9] in 1837. Robertson contrasted the differences in the average duration of life, between the English operatives at Manchester and the savage races. He indicated that although the total duration of life was greater in English operatives, chronic illness was enormously higher for the Manchester operatives than for the savage races, about three-fourths of the population of Manchester requiring medical assistance of some form each year. Robertson then discussed the impossibility of producing real improvement in an operative chronically ill, without getting this operative away from unfavorable home conditions. He pointed out the large numbers of "retreats for convalescents available for the wealthy," concluding with the following sentence:

"If then the opulent have, long since, discovered that a convalescent's retreat is good for them, will any venture to say that it is not equally good, and infinitely more necessary for the feeble and disabled of our manufacturing population?"

After outlining the character of the Homes for Convalescents which he recommended, indicating that individual Homes should have about one hundred beds, Robertson said it should be understood that no persons laboring under active forms of illness should on any account find admission. He then added the following:

"It has been suggested to me that such a retreat ought to be within six or eight miles of the town to which it belongs, rather than farther off: but there are many reasons why it should not be within a short distance, and why it ought to be on the sea coast. In the first place, it would require (supposing the town to be inland, and this I am all along supposing), the expensive purchase of a large space of ground, in order to secure to the convalescents sufficient room for exercise; whereas on the sea coast there is (with the most perfect change of air, and what is of importance to people from inland parts, complete novelty of scene), unbounded range without risk of tres-

passing on private property. In the next place, it is essential, in such an institution, that it be quite removed from the intrusion and frequent visits of the relations and friends of the convalescents."

Robertson offered the following reference to early French care of convalescents:

"In Howard's account of his inspection of the Hôtel-Dieu at Lyon, in 1775, allusion is made to two large upper rooms, airy and pleasant, named 'Chambres de Convalescence.' To these they remove patients that are recovering, and those whom I saw there said they were very refreshing. They came down from them at meals to a refectory or hall. These rooms soon complete the patient's recovery."

The Metropolitan Convalescent Institution of London, in 1844, erected what proved to be the first of a series of Convalescent Homes, conducted for the poor of London. Evidence to corroborate this statement has not been noted in the literature, but the accompanying photograph of its first building at Walton bears adequate testimony to the fact, in the date carved upon the facade. That this work has been held worth while, is in some measure suggested by its constant growth, to a point such that in recent years, this London Charity has been operating a total of some six or seven hundred beds, (from 60-70% of all convalescent beds available to London hospitals) for men, women, and children. Its institutions are located both in the country and at the seashore.

The following quotations are from a recent report of this Institution:

"The object of the Institution is to provide a Home in the Country for the temporary residence of the Convalescent and Debilitated Poor, whose restoration to health is impracticable in the Hospitals and at their own often unhealthy and ill-provided homes, but may be speedily effected by Pure Air, Rest, and Nutritious Diet.

"The Institution was one of the first of the kind ever established and now comprises four Homes, providing accommodation for 586 Men, Women and Children. It now admits yearly, free of charge, upon the recommendation of Subscribers, about 6,000 poor persons upon their discharge from Hospital, or after illness at home.

"The poor convalescents cannot obtain this blessing without aid, and the Charity has to rely almost entirely upon Voluntary help to carry on the work which has been in operation with such success for seventy years."

PLATE 2

Country Home for Adults
Walton, Near Weybridge, Surrey
Nine acres, 226 beds

PLATE 3

Seaside Branch for Women
Bexhill-on-Sea, Sussex
Three acres, 232 beds

METROPOLITAN CONVALESCENT INSTITUTION OF LONDON (1840)

PLATE 4

Children's Branch, Broadstairs
Five acres, 128 beds

PLATE 5

New Home for Men
Little Common, Bexhill-on-Sea
Four and three-quarters acres, 92 beds

Incidentally, it is interesting to note that the preference of its patients for the seashore is so marked, that a patient will often wait weeks for a seaside vacancy, rather than go directly from hospital to a convalescent home equally attractive, but not located at the seashore.

The illustrations suggest the type and size of buildings being utilized today in its work, by the Metropolitan Convalescent Institution of London.

The English preference in developments for convalescent patients is further suggested by two views of the pleasantly situated Liverpool Convalescent Institution at Woolton, now in its fifty-fourth year of usefulness.

A graduation thesis written in 1844 by Vidard-Dupin[10], *"Du Régime Alimentaire Dans La Convalescence,"* shows the continuing French interest in the diet of the convalescent patient. This author stated most emphatically that "convalescence no less than disease belongs to the physician," especially with regard to the diet. The blood he recognized as the "moderator of the nervous system," and stated that the muscles "must be refreshed in order to cause a disappearance of the preponderance of the nervous system." He recognized that great care was necessary to avoid sudden death from too rapid eating after fasting. Vegetables he considered less efficient in appeasing the appetite than animal foods; he also believed they gave less strength. Among special dishes, he mentioned the use of gelatin, fresh butter, fresh cheeses and the starchy foods. Vidard-Dupin was aware of the undesirable effects of nervous anxiety and stated that it was the business of the phyician (a) to produce in the patient a tranquil spirit, (b) to see that he avoided all excesses, and (c) to allow him, whenever possible, any especially desired foods. As an appetizer he approved of taking a bath an hour before meals, following this with friction by dry flannel. In conclusion, the advice is given that in the treatment of the individual convalescent patient, age, sex, temperament, habits, climate, the seasons, and all other complications must be carefully considered.

Recognition of the existence of the problem of convalescence in the care of soldiers during wars is, doubtless, very ancient. MacLean[7], however, writing in 1867, leaves it a matter of record that active convalescent divisions existed in the medical department of the British army during the Crimean War. Incidentally, it was MacLean who provided Da Costa with his nomenclature of "Irri-

table Heart." MacLean was the first to report the extensive occurrence of the "Irritable Heart" in soldiers. He stated that it was found "not only in the regular medical and surgical divisions, but also in the convalescent divisions." His general observations upon the characteristics of these substandard soldiers are summarized in the following sentence: "the official nomenclature in use in the service has no heading under which to include what may be called the 'Irritable Heart'—that rapid tumultuous action so common among soldiers; and which, once established, is never got rid of so long as a man remains in the Army and wears the dress and accoutrements of the infantry soldier."

Da Costa[4], following MacLean's nomenclature, reported in 1872 upon his own Civil War cases of "Irritable Heart." He referred to his own use of classification for soldiers in groups according to various degrees of physical disability, and emphasized the necessity for giving more attention to the period of convalescence as a means of improving physical efficiency within the Army.

A few years later, Brochin[2] (1877), again in France, reviewed the clinical and the historical aspects of convalescence interestingly and in detail in two long articles for the "*Dictionnaire Encyclopédique des Sciences Médicales.*" The first of these articles giving a clinical review of the subject, is distinctly worth reading, presenting as it does a detailed study of convalescence, under the following headings: definition, onset, temperature, pulse, innervation, locomotion, circulation, digestion, respiration, secretory functions, course and duration of convalescence, and hygienic treatment. The second, the historical article, is so comprehensive and the other literature upon convalescence is so scanty, that it has seemed desirable to abstract from Brochin at length in order that this historical material may be more accessible to students of convalescence than as originally published in an old French Encyclopedia of Medicine.

CONVALESCENT HOSPITALS

There were in Paris, in the seventeenth century, two hospitals for convalescents: that of the Hôtel-Dieu, and that of the Charité. The convalescent section of the Hôtel-Dieu was founded about 1640, and that of the Charité in 1650. The cause of the disappearance of these sections lies less in the disorders which increasingly augmented the number of convalescents at the Hôtel-Dieu, than in the necessity which existed at the commencement of this century, of providing shel-

THE LIVERPOOL CONVALESCENT INSTITUTION (1874)

PLATE 6

Balconies, Covered Porches, Broad Walks

THE LIVERPOOL CONVALESCENT INSTITUTION (1874)

PLATE 7

Auditorium for Services, Lectures, Entertainments

ter for all the acutely sick. There were then in hospital, according to the calculations of Tenon, two-thirds acutely sick and one-third convalescent. It was, however, recognized that wards for convalescents were indispensable. A royal ordinance under date of 1781, concerning the military hospitals, indicated the reasons which in the preceding century had determined the creation of special hospitals for convalescents. It was said in this ordinance that 'to obviate the prolongation of convalescence, occasioned by the bad quality of the air breathed in the acute hospitals, there should be established in connection with the principal military hospitals, and above all in connection with those situated in cities where the air is particularly damp, hospitals for convalescents, which should be located either in neighboring towns or in the country.'

In the hospitals which, after the plan of Tenon, were to replace the Hôtel-Dieu in Paris, the convalescents were to be placed on the ground floor, convenient to dry walks, warmed in winter, etc.

The committee of the Academy of Sciences, reporting upon the hospital situation, expressed itself as follows: 'a hospital in which one proposes to cure people, should take care of its convalescent patients. The ground floor, sufficiently raised above the soil, should be especially reserved for convalescent patients,—an arrangement which will facilitate for them not only walking, but the exercise of their increasing strength in the open air, etc.'

Later, the general council occupied itself on several occasions, as in 1802, 1824, and 1838, with methods of protecting convalescent patients from the infected air in the regular wards; but for various reasons which would take too long to enumerate here, these projects never came to anything.

In short, from the time of the closing of the convalescent hospitals of the seventeenth century, the situation as it existed with regard to convalescents in the regular hospitals underwent not a single modification. The convalescents continued intermingled with the seriously ill patients,—a deplorable system of promiscuousness which had indeed claimed a sufficient number of victims, when in 1855 the Emperor Napoléon III, struck by these dangers, decreed the foundation of special hospitals for the care of convalescent patients of the working classes. The decree under date of March eighteenth which created or, rather, re-established, this mode of public assistance, stipulated among other things that these hospitals should be open to convalescents of the working class, especially to those who had been injured in the course of their daily work; also it stipulated that in the case of those

qualified for admission to the hospitals, but yet desiring to remain at home, the right of admission could be converted into a monthly or annual grant.

CONVALESCENT HOSPITAL OF VINCENNES

The foundation stone of the Hospital of Vincennes was solemnly laid on the fourteenth of August, 1855; and on the thirty-first of August, 1857, two years later, the institution was opened.

On the following twenty-eighth of October an imperial decree classified the hospital among the general charitable institutions, and placed it under the authority of the Minister of the Interior.

The original plan provided for 460 convalescents, but the rapid development of the institution which, in 1861, had already received 7752 patients, produced a state of affairs which made necessary an increase in capacity. Additional wings were therefore constructed, which brought the total capacity of the institution to 522 beds for convalescents.

The hospital, constructed opposite the Maison de Charenton, and located in the midst of about 40 acres of land set aside from the park of Vincennes, is composed of two long wings on either side of a central pavilion. Near the entrance, to right and left of the driveway, there are located in two lateral pavilions the quarters of the personnel and administrative services. In the centre, along the axis of the main pavilion, are placed all the general services; the rooms and dormitories for convalescents occupy the ground floor and the two stories of the main wings and the pavilion.

The hospital itself is surrounded by gardens, with pleasant views across an extensive and carefully planted park.

The buildings themselves are laid out from east to west in such a way that the wings destined for living quarters are exposed to the sun at noon, with agreeable views across the gardens and the park.

The individual rooms, arranged to contain three beds each, are located on the ground floor, above which are two stories reached by staircases situated at the ends of each wing. All the corridors for the rooms are on the north side and terminate in two wide staircases on either side of the central building. The living quarters are warmed by heaters which maintain an average temperature of from 60 to 65° F.; a ventilating system changes the air at will throughout the year in the bedrooms. The corridors are lighted with gas throughout the night, the rooms only until bed-time, at nine o'clock.

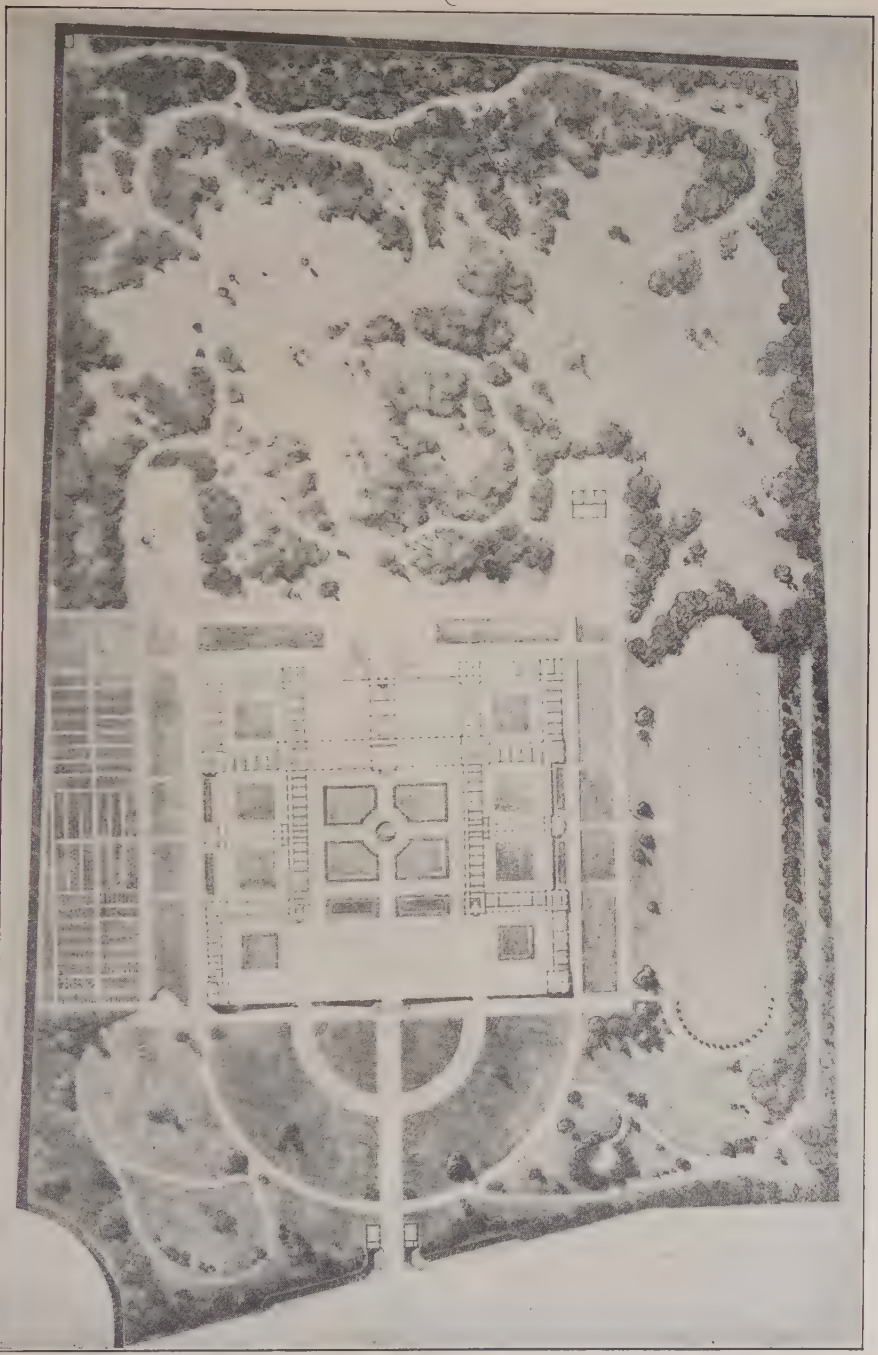
The infirmary includes one 16-bed medical ward, two surgical wards of 16 beds each, and a ward for infectious

VINCENNES

CONVALESCENT INSTITUTION FOR MEN

Maintained since 1857 by the City of Paris

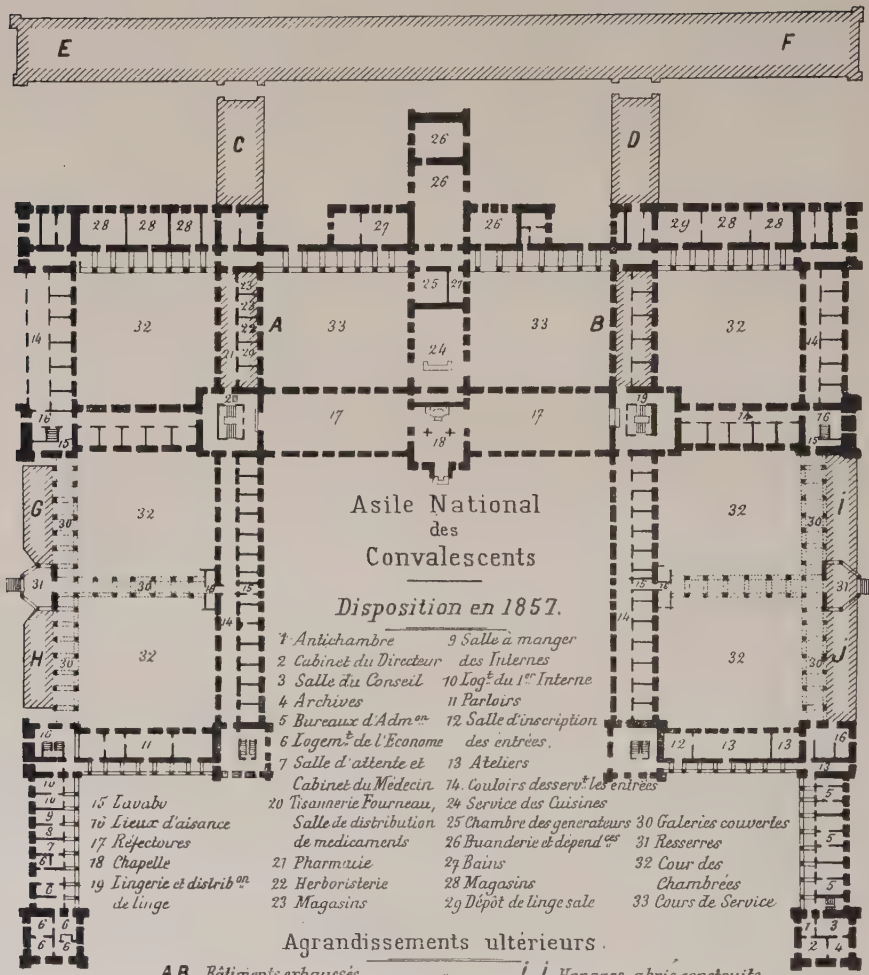
PLATE 8



Plot Plan—1857

40 acres of grounds and 600 beds

PLATE 9



Floor Plan—1857

Vincennes, in the 44 years between 1862-1906, cared for the impressive total of 370,887 patients at an average outlay to the *assistance publique* of only fr. 0.261 per patient per day.

diseases to care for five patients. Aside from this, there is on the ground floor a ward of eight beds for injured patients who cannot be otherwise cared for easily.

The dining-rooms, high of ceiling, paved with asphalt, and lighted on both sides throughout their length with large windows, are furnished with fixed marble tables and carved oak chairs. The kitchen is placed between the two dining-rooms, with its supply rooms in a basement, the two connected by an inclined walk to facilitate the transit of supplies.

The hospital is administered under the authority of the Minister of the Interior, by a responsible director assisted by a consulting commission of seven members, one or more of the members changing each year.

The medical care is divided between two chiefs of service, each assisted by three interns. The interns live in the hospital.

The infirmary is in charge of a Sister with three assistants. When necessary, a Sister is on duty at night.

A bathroom, adequate for sixteen bathers, and a room for hydrotherapy are at the disposal of the medical service.

A Sister is in charge of the drugs, under the supervision of the pharmacist of the Charenton Hospital. Prescriptions are limited to simple remedies.

Every morning, excepting Sundays and holidays, the physicians make a ward visit at the hospital, accompanied by the interns, who inform them of developments since the previous day. The Sister in charge of the pharmacy examines the orders of the day and assures their carrying out.

The interns alternate on duty throughout the twenty-four hours. They care for the ordinary medical needs of the patients; should there arise more serious necessity, they immediately inform their chiefs of service.

Rules for Admission.—The hospital admits for the treatment of convalescence the following:

1—Those suffering injury or sickness resulting from their being engaged in public works in progress in the Department of the Seine;

2—Those belonging to mutual aid societies paying yearly retainers to the hospital to secure care during convalescence for their members;

3—Those working in industrial establishments the owners of which have contributed to the support of the hospital;

4—Those patients convalescent from hospitals in the Department of the Seine, or sent by charitable organizations.

The hospital receives also, but on a pay basis, all other convalescents who do not fall into one of the four above

groups; members belonging to mutual aid societies approved by the Department of the Seine are also received in the hospital.

The price per day for those coming from industrial establishments as above, is seventy-five centimes.

Those who do not fall into any of the above categories may be admitted at one franc per day.

(When necessary, patients may have their charges reduced or are admitted free.)

Arrival of the Convalescents at the Hospital.—Special conveyances collect the convalescents in Paris for transportation to the hospital, and return them to Paris on the completion of their stay. On arrival at the hospital, the intern on duty receives and examines the new patients, classifies them according to their condition, prescribes a routine and dispenses any urgent medication, should there be need of such previous to the next visit of the chief of service. If the chief of service should conclude that the convalescent patient is not strong enough to undergo the regular routine, he orders him to the infirmary.

Duration of Stay of the Patients.—The length of stay of convalescent patients at the hospital is very variable. The usual duration is fixed at two weeks. After this length of time, if the condition of the convalescent patient requires it, the director can upon advice of the physician authorize the patient to remain in the hospital for a second two weeks; and at the end of this period, the director can obtain even further extension of time, should the physician judge it to be necessary.

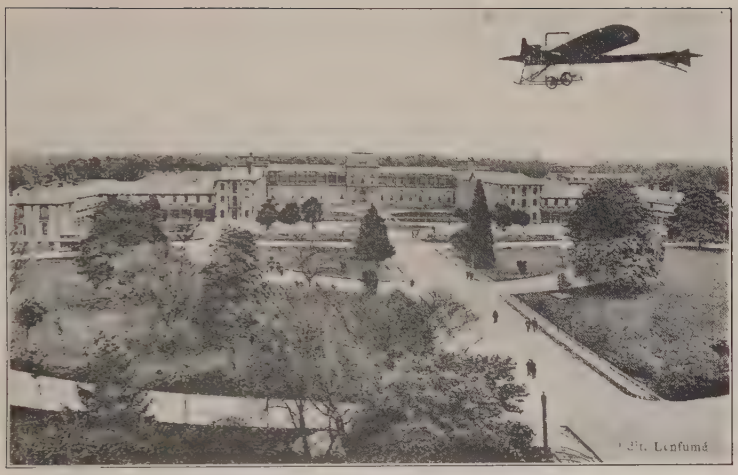
The average duration of stay is 21 days. The departure of the patients about to leave is announced on the evening previous to the day on which departure is effective. Those leaving are taken back to Paris.

Routine.—The hours for meals have been in so far as possible fixed according to the habits of the workers: at 7 in the morning—soup; at 10 o'clock—the noon meal; and at 6 o'clock—dinner.

It is perhaps of interest to mention a few details concerning clothing, sleeping, occupations, and the daily routine. Each convalescent at the time of his arrival is provided with special clothing composed in winter of a blue overcoat, with hat of the same material, a blouse and straw hat for the warm season, and a pair of sandals. The patients sleep upon iron beds provided with hair mattresses. Each convalescent has, in addition, the comfort of an armchair, and a clothes closet.

The convalescents enter freely, stimulated by small cash

PLATE 10



Bird's-eye View—1924

PLATE 11

Arrival of Patients from Paris

PLATE 12

Bedroom

"There are three patients to a bedroom, with beds, clothes closets, bureaus, bed tables, and chairs for each patient. The floors are of oak. The walls are painted a clear light green, which can be washed. The windows are so arranged that they all face the south. There is a cubic air content of 65 meters per room. As a result, the patients have excellent hygienic conditions." (1900.)

PLATE 13

Dining-room

"The convalescent, washed, dressed in uniform, after a rest in his bedroom, descends to the dining-rooms. These are two great rooms with very high ceilings, mosaic floors, and tables of red marble which give a pleasant note of color against the clear blue of the walls and columns which support the ceilings. Steam plate heaters make it possible to supply the patients with plates hot enough to prevent too rapid cooling of their food." (1900.)

compensations, into maintenance work, such as the repairing of clothing and furniture. They are also occupied in special departments of the hospital, in farming, in work upon the outside grounds, and in various of the services, such as the pharmacy, the room for surgical dressings, the kitchen, dining-rooms, laundry, etc.

Various entertainments are authorized, for recreational purposes, and to occupy the spare time of the convalescents, a special room being set aside for these activities; they have as additional resources, walks in the park, among the flower gardens, under the shade of the trees in the formal gardens, etc.

The convalescent patients are required to carry out a schedule only with regard to the hours of rising, ward visits of the physicians, baths, dressings, hours of meals, and any special work upon which they are engaged.

Three times weekly, Sunday, Monday and Thursday, from 12 to 4, is the visiting hour for family and friends.

In addition, the institution possesses a library, rooms for singing and for music, a large meeting hall, and even a theater which is used occasionally,—that is to say, whenever there are among the convalescent patients a sufficient number of persons who can take the necessary parts.

A general report follows, covering the convalescent patients admitted to the institution and to the infirmaries since 1858, the first year in which the institution was in full running order.

The published official medical reports show that in the period between 1857 and 1866, approximately 57,844 convalescents entered the hospital, 37,824 of whom were suffering with medical and 20,024 with surgical complaints.

The most frequent medical complaints were as follows: affections of the lungs, affections of the digestive system, rheumatism, typhoid fever, smallpox, erysipelas, and accidents due to the use of toxic substances.

ADMISSIONS TO THE HOSPITAL

Years	*Medical*	*Surgical*	*Totals*
1866	6,937	3,557	10,494
1867	6,956	3,991	10,947
1868	7,280	4,360	11,640
1869	7,359	4,503	11,862
1870	5,970	2,742	8,712
1871	1,482	1,007	2,489
1872	3,819	2,517	6,336
1873	4,951	4,004	8,955
1874	5,186	3,452	8,638
1875	4,810	3,549	8,359

ADMISSIONS TO THE INFIRMARIES

	Ward D. (Dupuytren)	*Ward L. (Laennec)*	*Totals*
1866			687
1867			617
1868			866
1869	415	583	998
1870	758	382	1,140
1871	98	139	237
1872	235	254	489
1873	274	328	602
1874	285	319	604
1875	303	333	636

On the surgical services, the most numerous cases were; fractures, phlegmons, white swellings, eye complaints, and amputations.

In the period 1857-1866, with a total population of 57,844, there were 249 deaths, accounted for as follows:

Diseases of the lungs	61
Fevers	58
Diseases of the nervous system	46
Diseases of the circulation	24
Cachexias	16
Diseases of the digestive system	10
Diseases of the joints	4
Diseases of the mouth	4
Diseases of the genito-urinary system	2
Contagious diseases	1
Contusions and burns	1
Diseases of the eyes	1
Dropsy	1
Diseases of the skin	1
Epidemic diseases	1
Other diseases	18

CONVALESCENT HOSPITAL OF VESINET

The hospital of Vésinet was built in conformity with the decrees of March 8, 1855, and of August 11, 1859, to receive temporarily women of the working classes during convalescence. This hospital, constructed according to the plan of M. Laval, completed in 1859, was opened on September 29 of the same year. Situated toward the southwest corner of the Forest of Vésinet, in the commune of Croissy, this establishment is set in a park of approximately 75 acres, enclosed by walls. It consists of a large central building connecting with lateral

PLATE 14

Amusement Hall

Games and Recreation—Indoors

"The weather does not always permit the patients to breathe the pure air of the plateau of St. Maurice, in which case, and in the evenings, the patients amuse themselves in a large hall set aside for this purpose. Such games as dominoes and English billiards are available, and groups gather to relieve the monotony of the otherwise dull evenings. Two superb maps painted on one of the end walls by a former convalescent, prove of great interest, especially to the new patients." (1900.)

PLATE 15

Theater and Lecture Hall

"After dinner the patients amuse themselves in the theater, where a piano frequently accompanies those who sing. One often finds, among the large population at the hospital, professional actors who are generally happy to be heard and applauded by their comrades. The same hall serves also for more formal performances by artists who come from Paris to amuse the patients, and for talks and conferences upon various subjects." (1900.)

PLATE 16

Library

"The library, of over 5000 volumes, is constantly sought by the convalescents, especially in winter or during bad weather. Illustrated volumes, magazines and reviews are above all in demand; and always the popular romancers like Alexandre Dumas père and Jules Verne are very much read." (1900.)

PLATE 17

South Wing
Canteen, left centre in covered corridor

wings by means of covered galleries. The central building contains on the ground floor the dining-rooms, and on the first floor above, two work rooms separated by a chapel which occupies the central pavilion. The wings on the right side of the Court of Honor are three stories high and are used for the offices and quarters of the administration. The left wings are given over to quarters for convalescents. The individual wards contain from two to eleven beds, divided between the ground floor and the two upper floors. The total number of beds is 350, with an additional 50 beds for infants.

These wings are provided with sanitary arrangements and hot and cold water.

All the wards are heated with hot-air heaters, combined with a propulsion ventilating system for all seasons of the year, aided by a small vaporizing machine from which the exhaust steam is also used for the infirmaries and the baths.

A vegetable garden, irrigated throughout its entire extent, is placed in the southwest corner of the park; between it and the main buildings is the dairy.

The Hospital of Vésinet is administered under the authority of the Minister of the Interior, by a responsible director, assisted by a consulting commission.

The personnel is composed of a director, an auditor, a chaplain, a physician, three interns, 15 hospital sisters, servants, etc. Convalescent working women residing in the Department of the Seine who are not sent through usual sources, such as hospitals, charitable organizations, and mutual aid societies, may be admitted on payment of a small daily charge.

From the 8th of December, 1859, the day of the opening of the hospital, to January 1, 1866, there were received 22,504 convalescent women and 2263 infants.

The average duration of stay at the hospital is 23 days.

The admissions are highest during the months of August, September and October, and decrease markedly during the winter. Extensions of stay can be obtained by authorization of the Minister of the Interior, for convalescent women whose recovery is not completed. From 1859 to 1866 there were granted 1109 extensions of stay.

The classes from which come the largest number of convalescents are: Domestics, dressmakers, washwomen, seamstresses, ladies' shoemakers, and florists.

The physician makes a daily visit at 8 o'clock. The medical reports show that the most frequent diseases causing admission are typhoid fever, phthisis, bronchitis, pneumonia, and rheumatism. Next in frequency come chlorosis and chloro-anaemia.

One of the most numerous classes of patients is that of women following child-birth. They are sent in general from hospital services where they were delivered, about seven or eight days after delivery. A considerable number of these women come with their infants, whom they nurse. If an absence of breast milk occurs, or if the mother is sick, or if for any other reason the infant cannot take the breast, there is available a nursery located near where the mothers sleep.

All infants arriving at the hospital with their mothers are without exception vaccinated if this has not been previously done.

The infirmary contains 20 beds, intended to care for: mothers arriving at the hospital so early in convalescence as to require special care, so that for this reason they cannot carry out the regular routine; convalescents with surgical conditions necessitating particularly careful dressings; convalescents made worse during their stay at the hospital, either by intercurrent disease, or by a relapse, or by accidents not sufficiently dangerous to require return to the hospital from which they came in the city of Paris. These three classes of patients fall under the same regime and receive the same care as those in city hospital wards.

Admissions to the infirmary between 1859 and 1866 were 11,096 out of a total of 22,504 convalescents. The average duration of stay at the hospital was 25 days. From the time of the opening of the hospital there have been 76 deaths out of a total of 22,504 convalescents, including those in the open wards and in the infirmary, due to the following causes:

Contagious diseases	18
Diseases of the lungs	15
Fevers	15
Cachexias	12
Diseases of the circulation	8
Diseases of the genito-urinary system	2
Diseases of the digestive system	1
Diseases of the nervous system	1
Other diseases	4

Deaths among the infants accompanying their mothers to the hospital are very numerous. In 1861, of 296 infants, 54 died; in 1862, 26 of 267; in 1863, 33 of 332. Beginning with the year 1864 the number of deaths decreased; in this year there were only 18 out of 456 infants, and in 1865 there were only 30 out of 688.

Private Convalescent Hospitals.—Private charities also maintain convalescent hospitals for the poor. There exists in Paris a society for the care of convalescent children, which

PLATE 18

Southern Facade—1858
Covered porches, broad walks, lawns

PLATE 19

West Wing
New sitting-rooms—1903

PLATE 20

New Infirmary—1905

PLATE 21

Outdoor Games—Bowling, interesting to both players and onlookers

"The game of bowls on a clay court is one of the favorite amusements of the patients. When weather permits they play outdoors, and while the more active participate, a numerous gallery counts the points and discusses the shots." (1900.)

is carried on by the Sisters of St. Vincent de Paul, where are received in the convalescent home (located in Sèvres) poor children recovering from disease; there are received here also convalescent adults.

At the conclusion of his historical review of the subject of convalescence, Brochin summarized the other efforts in France then being directed toward care of convalescents. Thus, there were in Paris five private homes for convalescents, aside from the homes designed to care for women immediately after child-birth; also, there were accessible to the city two homes for the children of Paris, one for boys and one for girls.

At Lyon, there was in operation a public convalescents' hospital for men, called the Asile Sainte-Eugénie. This establishment, founded through the initiative and munificence of the Empress Eugénie, who gave the sum of 200,000 francs for the purchase of the Chateau of Longehêne, was opened in 1867. It was situated six kilometers from Lyon. On recommendation of the physicians, poor convalescent patients leaving the Hôtel-Dieu and the Red Cross hospital could be taken there, when they so desired, in order to complete their recovery. The hospital itself contained 100 beds. The patients here had not only the pleasure of walking through the extensive and beautiful grounds, but were allowed to engage, according to the limits of their strength, in farming and other outdoor work. Medical care was provided by one physician, assisted by two interns.

The women of Lyon, convalescent from serious illness, were less fortunate than the men, since at this time there was no similar institution available for them. Consequently such care as they received during convalescence had to be provided entirely by private charity.

Note—1922

Since the preparation of the above article for publication, the writer had the opportunity in early September of visiting both Vincennes and Vésinet, the two great institutions for convalescents for the men and women of the city of Paris to which Brochin refers above. Surprising as it may seem, it was impossible from the literature to verify even the continued existence of these hospitals. They were unknown outside of Paris, yet they had been in continuous and successful operation throughout the 56 years since their opening, until the onset of the War in 1914. Then, as had happened to convalescent

hospitals in previous centuries in Paris, their 1000 beds were converted to military purposes for the care of the acutely sick.

Since the war, funds have not been adequate to maintain both institutions. Inevitably, the men suffer. Vincennes is still closed, although its early reopening is eagerly anticipated by physicians of the hospitals of Paris, who had been accustomed to depend upon it for the better care of their poor patients during convalescence. But the women's hospital at Vésinet has for over two years been functioning again as a civil hospital for convalescents.

On the day of my visit to Vésinet, 250 of its 400 beds had been made available in the gradual process of renovation necessitated by military occupation. All the beds available were filled. In addition, about 50 mothers with infants were being cared for in the nursery wing, sent there direct from city maternity hospitals.

The system of after-care does not stop here, and the French do not consider their responsibility ended on discharge of a patient from Vésinet, for at a city branch of this institution, otherwise homeless girls are received and cared for free for ten days, or until they are actually again placed at a new job. Here is in operation an example of intelligent municipal medical follow-up work which other cities less well provided for may well study with care.

The sensations of the explorer who comes suddenly upon a lost city in the jungle can hardly exceed those experienced by the writer when coming suddenly upon the magnificent grounds and buildings provided with such admirable foresight by the French for their convalescent men and women at Vincennes and Vésinet, a complete equipment which for practical purposes has been lost to the world outside of Paris,—a municipal equipment too, which in the seventy years since its opening has nowhere thus far even been equalled for completeness.

It seems almost incredible that Vincennes and Vésinet should so long have remained "lost." It is, however, a fact, and it demonstrates better than many words the present apathy of the world at large toward the subject of convalescence.

Note—1924

Since first visiting Vésinet and Vincennes in 1922, the writer in 1924 improved a second opportunity to visit these great hospitals.

In 1924, Vésinet had been completely renovated after its strenuous war use, and every available one of its total of 429 beds were filled

VINCENNES

PLATE 22

Main Wing—1858

Recessed second floor; upper balcony, large windows, awnings

VINCENNES

PLATE 23

Omnibus Departing—Central Court—Return of Patients to Paris

"The fortnight is over. A prolongation of stay has not been considered necessary by the physician. The omnibus awaits, drawn by three vigorous Percherons. The more infirm seat themselves in the interior, the young and alert climb to the roof, and the omnibus starts on its return to Paris. Some of its passengers are happy at the thought of reunion with their families, but others, and alas the greater number, are filled with anxiety over what future struggles life may have in store for them when the little monetary assistance which has been given them is exhausted." (1900.)

with patients grateful for this chance of convalescence in the country.

The City Annex of Vésinet was also visited. In response to a need which it was meeting, its location had been changed to a more accessible and advantageous one, on the high land south of the Seine, at No. 20 Rue Rubens; and the capacity of the new quarters had been increased from 15 to 40 beds, these being arranged in four wards of ten beds each.

This Annex, spotlessly clean, and administered by an unusually kindly, sympathetic and yet efficient matron, offers a haven of refuge to the girl who, after leaving hospital destitute of funds, has yet to find a job to keep body and soul together.

It is a practical charity worth careful study by social workers. It will well repay a visit, doubly so, if, as did the writer, the visitor arrives at supper time. The atmosphere of radiant happiness, together with the penetrating aroma of good French home cooking, combined to create an effect in the duplication of which any community might well find satisfaction.

Vincennes, still closed in 1922 for lack of funds after the war years, had been reopened to the extent of over half its capacity, with the promise of complete and normal activity in the not distant future. The visit of the writer occurred on a Sunday afternoon, during the visiting hour for relatives and friends of patients. The great court of Vincennes, trees, flowers, blue sky, the animated conversation of scores, even hundreds of patients and their families or friends, and the general air of returning health, made an unforgetable picture; one which, possibly excepting the smaller Burke Foundation, could not today be duplicated.

At his second visit to Vincennes in 1924, the writer was fortunate enough to obtain a copy of an illustrated one-hundred page paper-covered pamphlet published in 1907 in commemoration of the fiftieth anniversary of the founding of Vincennes. This pamphlet, in effect a fiftieth report, gives a complete and authoritative account of the activities of the institution during the preceding fifty years, including its service during the earlier Franco-German war of 1870. Thus, it held the status of "ambulance militaire" from August 25, 1870, to July 21, 1871. Also, the series of events leading to the founding of Vincennes are indicated, full credit being given by Empress Eugénie to Napoléon III himself, for the conceiving and the carrying to completion against opposition, of this great humanitarian project.

In addition, there is given a concise history of convalescence in France prior to 1857, from which one learns for example the following: in 1645 Monsieur and Madame de Fieubet opened an actual convalescent hospital branch of the Hôtel-Dieu, in the Rue de la Bucherie, later transfering it to the priory of St. Julien-le-Pauvre, although this was in "a location too damp and one which was exposed to the foul air from the Hôtel-Dieu"; a convalescent hospital for the Charité was opened in 1650 by Mme. Angèle de Faure in the Rue du Bac, but after the close of the Eighteenth century, the hospitals of Paris made use only of special wards for convalescents; in 1819, M. de Montyon left a sum of 4,859,220 francs, the interest on which was to be distributed to those of the "poor leaving the hospitals," who most needed help, and in 1821, an attempt to use this legacy for the construction of hospital facilities for convalescents was voted down on the ground that the amount available was inadequate for the carrying out of the purpose intended, i. e., a construction program to cover the convalescent needs of the men, women, and children of Paris.

VINCENNES

The following paragraphs are quoted from the fiftieth anniversary report of Vincennes, (1900), no more recent reports being available.

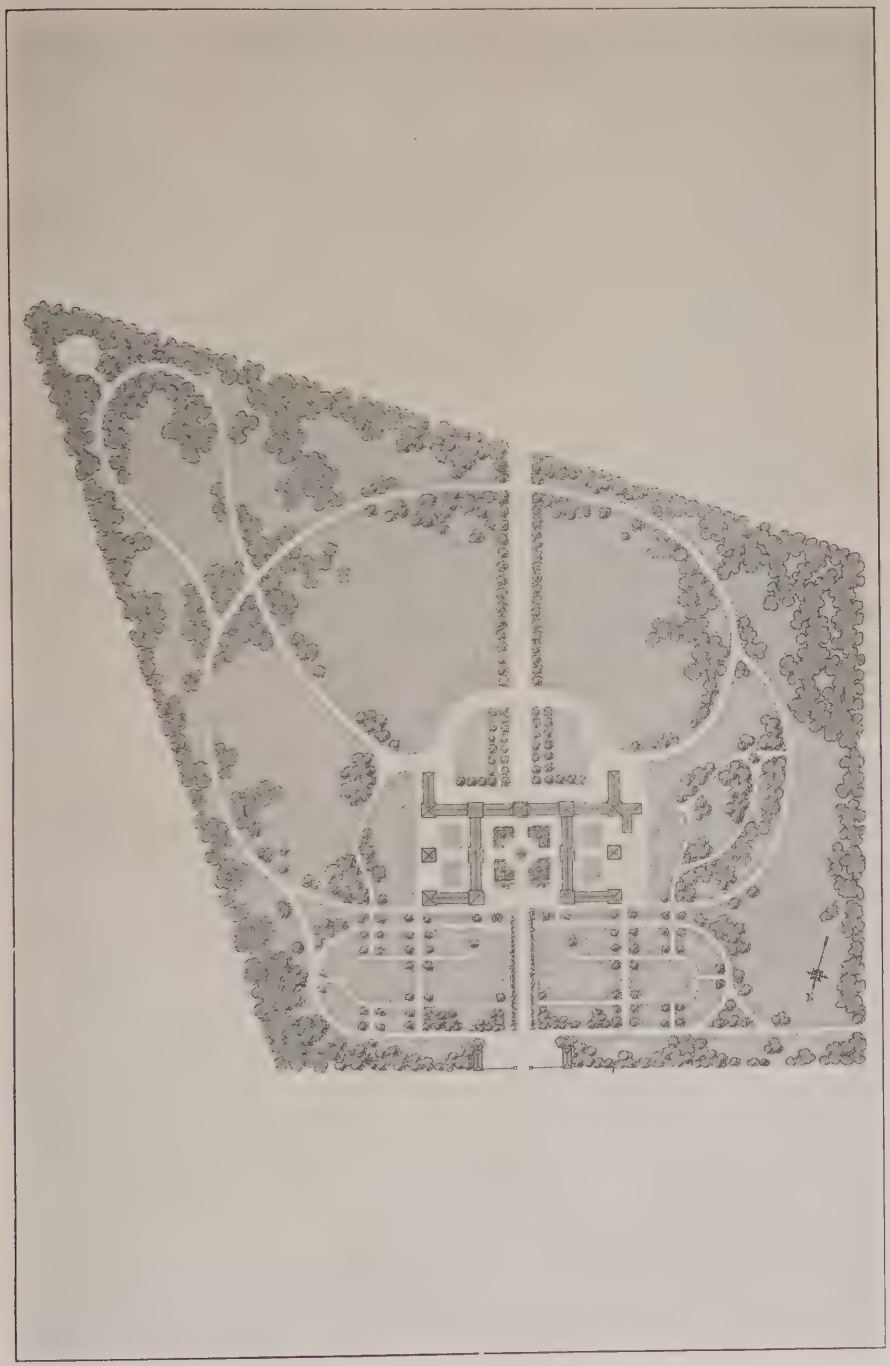
> The Asile National de Vincennes was built following the decree of March 8, 1855. Construction was begun August 14, 1855, and the establishment was opened on August 31st, 1857. The walls, so quickly constructed, had unfortunately been erected out of too light material. It is said that this was the fault of the Commission which had in charge the details of construction, which, persuaded that the work would have only a very limited usefulness, directed the architect, M. Laval, to build it to last only for thirty years.
>
> The walls, including those facing the interior courts, etc., totalled approximately 24,000 square metres in extent. The expenses of construction totalled some two and a half million francs; and it should not be forgotten that the Asile was on several occasions enlarged, especially in 1861, 1862, and 1863.
>
> The Asile is surrounded by gardens, lawns, and an extensive park filled with large trees. The gardens run into the Forest of Vincennes in such a way as to permit a distant view and to allow a good circulation of air on this plateau which is situated at an elevation of about 125 feet above the level of the Marne.

VESINET

CONVALESCENT INSTITUTION FOR WOMEN

Maintained since 1857 by the City of Paris

PLATE 24



Plot Plan—1857
75 acres of grounds and 400 beds

VESINET

PLATE 25

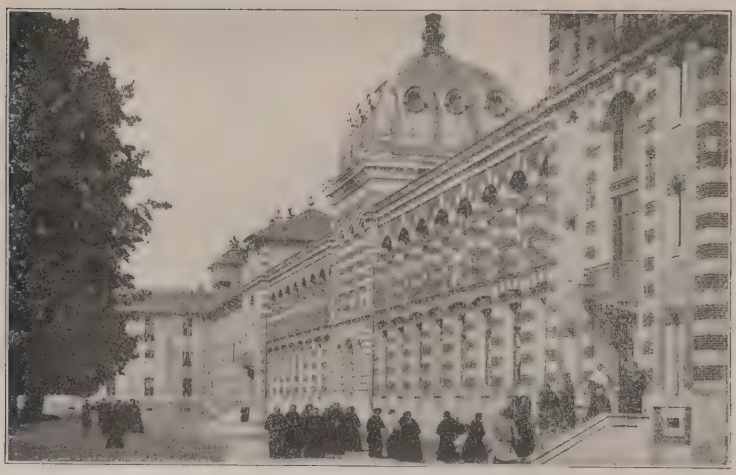
Cows, Pastures, Trees

PLATE 26

Central Dome, Containing Chapel

VESINET

PLATE 27



Southern Exposure
Gravel walks; dining-rooms below, and work and recreation rooms above

PLATE 28

Southeast Wing
Fifty beds—For mothers with infants

A police regulation prevents the erection, within a wide range of the Asile, of any buildings, industrial or otherwise, which might interfere with the purity of the atmosphere.

Daily, except on Sundays and Thursdays which are reserved for the visits of the families of the patients, an omnibus belonging to the Asile with a capacity of thirty-two patients, in accordance with the regulations, visits the hospitals in the city to collect convalescent patients; at the same time, it leaves in Paris those returning from the Asile. Patients arriving and departing, average some 30 to 35 per day.

A special ambulance is available for the transportation of the seriously ill, who may require to be returned to the hospitals of the city on account of relapses, or incurrent disease. The daily routine is as follows:

Three meals per day, at 7 o'clock in the morning, 10:30, and 5:25 in the afternoon.

7:00 A. M. Thick soup or thin.

10:30 A. M., Déjeuner, consisting of meat, a plate of vegetables, and one dessert.

5:25 P. M. Dinner, soup, meat, vegetables.

Rations for each patient,

Bread, 650 grammes.
Meat, 425 grammes.
Wine, 50 centiliters.

Convalescents for whom special food is required are sent to the Infirmary, and receive there the diet ordered by the physician. The rising bell rings at 5:30 A. M. in the summer, and at 6 A. M. in winter. The convalescents enjoy the most complete liberty in the way of employment of their time, with the restriction only that they must submit to fixed hours in regard to the visits of the doctors, medical treatment, baths, and meals.

They are free to go and come all day in the Central Court and in the walks surrounding the buildings. The park is open to them until ten in the morning, and from noon until five o'clock in the afternoon.

The library contains about 5000 volumes and is open from noon until four o'clock. In the afternoon, and after dinner until 8 o'clock, there are at the disposal of the patients, in the large hall on the second floor, the usual games such as dominoes, billiards, etc. All day, under the trees when the weather is favorable, there are two bowling alleys available. Also, from seven to eight-thirty at night, they are free to enjoy the theatre, where patients so disposed present little sketches, or where there may often be given more formal entertainments such as dramas or vaudeville.

Also, from time to time high-grade theatricals are given through the courtesy of the actors and actresses of Paris; and in addition, instructive talks may be given on various subjects.

The number of patients admitted, from the opening of the hospital (1857) to January 1900 is 332,736, an average of about 8,206 per year. Deaths, during this same period, totalled 1241, an average of 29 per year.

The average stay of the patients is about 18 days.

The hydrotherapy division, reorganized, was completed by the addition of a set of shower baths through which pass on their arrival, all convalescents not excused by the intern responsible for the preliminary examination of the patients. The average price per day for food, was in 1899, slightly in excess of 1 franc including all classes of people at the hospital. The cost per day per patient, was 3.97 francs in 1899.

To avoid all danger of contagion, the Asile no longer admits patients with smallpox or tuberculosis. A special pavilion was set aside for contagious diseases until 1894. Since this time, convalescents with smallpox have not been admitted at all, but the special ward has continued to be used for the tuberculous. Their isolation being only relative, and their presence constituting a permanent danger to the other convalescents, it was more recently decided by the Minister of the Interior that admission to the Asile should be refused to all convalescents whose medical certificates did not bear the notation "free from pulmonary tuberculosis."

Since July 1886, the Annex established at 32 Rue de Charenton has had available about 50 beds, and has received on their leaving the Asile all convalescents without means, without homes, without work. They are cared for at the Annex for from 3 to 6 days during which time with the aid of the Administration they can be looking for and finding work. They receive each morning, one ticket, value ten centimes, good for one soup; and two tickets, value fifty centimes each which give them the right to obtain at a temperance restaurant, two meals consisting of bread, meat, and vegetables; thus is avoided, as is common in ordinary restaurants, the difficulty of having the patients exchange their meal tickets for alcohol or absinthe.

Previous to 1903, the Annex was used also by hospitals outside of Paris, as a place to which to send those recovering from alcoholism, a demoralizing and expensive practice which was discontinued by ministerial decree of October 31, 1901, other arrangements being made for this undesirable class of patients.

VESINET

PLATE 29

Work and Recreation Hall
Large windows, north and south

PLATE 30

Dining-room

VESINET

PLATE 31

Vegetable Garden

PLATE 32

Central Court and Northern Approach

Effective in 1903, this new arrangement resulted in both a moral and financial improvement at the Annex, the cost of maintenance being reduced by one half, to some 8-10,000 francs per year.

For the year 1906, out of 1,318 admissions, 119 ex-patients had found work before leaving the Annex.

Between 1887 and 1907, the Annex cared for 44,534 men.

The hospitals of Paris are authorized to send directly to this Annex, those patients who for dietary or other special reasons should not be sent as far away as the Asile de Vincennes. Furthermore, as a result of an arrangement with the Department of the Seine, the Annex also accepts those recovering mental cases which may be sent to it from the hospitals of the Department. The Annex received in 1899, 1856 patients. Of these, 1258 came from the Asile, and 598 from the mental hospitals.

The Asile National de Vincennes owns No. 4 Rue Rondelet, which has been used as a boarding house for needy workmen, in addition to convalescents leaving the Asile. The price per room, is 2.50 francs per week, an amount which the Asile contributes from its own funds for the convalescents which it sends to these quarters for unmarried men.

The Asile received from Mme. Laborie, widow of a former physician to the hospital, a legacy of 800,000 francs from which is distributed some 25 francs each, to those convalescent patients most deserving and most in need. Assistance is thus given each year to 1056 of the patients. Inquiry made while the patients are at the hospital, allows careful discrimination in the distribution of these donations.

A sum of 6,000 francs additional, is distributed yearly in the form of assistance from its general funds, in amounts of from 1 to 5 and 10 francs, to selected convalescents leaving the hospital.

Each day, all new arrivals are re-vaccinated.

The budget for the Institution, for 1900, amounts to about 695,000 francs in income, and 675,000 in expenses. The resources of the establishment are provided from revenues from seventeen houses and other real estate situated on the Boulevard Diderot, from funds obtained from the Government Bonds held in the name of the Hospital, and from the surplus of approximately 400,000 francs set aside as a common fund reserved for use in the hospitals of Vincennes and Vésinet, this fund being obtained through a tax of 1% on all public works being carried on in the Department of the Seine.

The first wing on the right is reserved for the Administration. The central dome and the facade which extends to

right and left from it, contains the chapel, dining-rooms, amusement halls, theater, and library. In the last inner court are the kitchens, baths, and general service quarters.

It is believed that the fiftieth report and other pamphlets obtained at Vincennes contain valuable historical material. These pamphlets therefore have been made available at the Boston Medical Library, where they may be consulted by serious students of convalescence.

REFERENCES

1 Bridgman: Arch. Int. Med., 1919, xxiv, 65.
2 Brochin: Dictionnaire Encyclopédique des Sciences Médicales, Paris, 1877, xx, 153.
3 Cooke: Transylvania Jour. of Med., Lexington, Ky., 1833, vi, 502.
4 Da Costa: Am. J. Med. Sci., 1871, lxi, N. S., 17.
5 Fourcade: Dôit-on Laisser les Convalescents Avec les Malades ?, Paris, 1802, 74 p.
6 Heylerus: De Statu Convalescentiæ, Lipsiae, 1732, Inaug. Dissert., 56 p.
7 MacLean: Brit. M. J., 1867, I, 235.
8 Maret: Considérations Générales sur la Convalescence, Paris, 1834, 31 p.
9 Robertson: Edinb. M. and S. J., 1837, xlviii, 326.
10 Vidard-Dupin: Du Régime Alimentaire dans la Convalescence, Paris, 1844, 34 p.

II

A Chronological Review, From 1878 to 1917*

1878-1900

The period from 1878 to 1900 was marked by an absence of literature upon the subject of convalescence almost as complete as exists today. Today, for example, if one looks in the index of a recent volume of the *Journal of the American Medical Association,* such as that for June, 1922, one finds "Contract" followed by the title "Convulsions," the title "Convalescence" being wholly absent from the index of this important medical journal.

However, in spite of the dearth of literature between 1877 and 1900 there continued a certain amount of very practical interest in the subject, as evidenced by the opening of numerous convalescent homes in Europe. In this country, the same period saw the opening of several small convalescent homes of approximately 30 beds capacity. St. Luke's Convalescent Home and the Convalescent Home of the Massachusetts General Hospital are two local reminders that Boston was at that time taking an active interest in providing suitable accommodations for the convalescent patient.

1900-1917

Lewis[8], in 1903, remarked upon a certain similarity between convalescence and chronic illness, the similarity being based upon a loss of tone throughout the body. He believed that the change in habits of the sick person, from relative activity to a more or less passive condition, was in part responsible, as also the limitation of environment. He recommended a change of air, a well-planned routine, regularity of habits, and careful exercise. As a nerve tonic he proposed valerianate of zinc.

In the following year Rowell[10] deplored the fact that convalescent patients were usually neglected, a neglect which unfortunately continues today to be the rule rather than the exception.

---

* Bryant: Boston Med. and Surg. Jour., 1923, vlxxxviii, 625.

One of the first careful studies of the general subject of convalescence, in the period since 1900, is that by Frankel[5], who wrote in 1905 as manager of the Hebrew Charities of New York City. He pointed out that the average stay of patients in an acute hospital was 18 to 20 days, a period which is today accepted as the average in large hospitals the world over. This period is in striking contrast to the average stay of non-tuberculous patients in the German sanitaria, a period which he found to be about 52 days for the men and 56 days for the women.

Frankel concluded that the New York hospital system was inadequate and that it was developing an increasingly large class of "half-cured" persons who eventually drifted to relief agencies as permanent dependents. He pointed out that the death rate from the common diseases was on the increase rather than the decrease, and he stated his conviction that it was necessary to care for the convalescent patients in special hospitals, in order to avoid the subsequent pneumonias and nervous exhaustions which occur so frequently in this class of half-cured patients. It was Frankel's opinion that hospitals for convalescents should approximate to the least extent possible the regulation hospital, and to the greatest extent the normal home. He approved of the cottage plan of building, and spoke of the definite place of family care in any complete scheme of convalescent work. The advantage of a change of environment from the home was considered important, and he believed it advisable to have a definite set policy upon the subject of convalescence, even from the purely economic point of view. It seemed to Frankel a question of fundamental preventive medicine in which convalescent homes were the alternatives for homes for incurables—not to mention the fact that such preventive care acted as a definite aid in the direction of eugenics.

In 1905, Oddo[11] remarked upon the evolution of a leucocytic formula for convalescents. In the same year[12] he drew attention to a cardio-vascular hyposthenic sign of incomplete convalescence, which he called the hypotension of effort, due as he said to both cardiac and vasomotor insufficiency. He believed that after exercise one should measure not only the force but the stability of this reaction.

In the same year, 1905, Taylor[14] wrote upon the necessity of special exercise for the motor education or re-education so necessary during convalescence, in language which has not since been improved

upon. He believed that: "The motor machinery tends to lose range, scope, elasticity, and nicety of adjustment. Exercise should include accuracy, symmetry, deliberation, normality of direction, moderate speed, and maximum force. Mental training is so inextricably interwoven with motor training that it is practically conceded that motor education is the essence or basis of the whole. The best psychic results come through coöperation of bodily and mental education. This work cannot be delegated by a physician. The reason why so many invalids remain such, or so many convalescents become invalids, is because the medical advisor fails to complete his work, to appreciate the full significance of his duties, to apply his abilities to the perfecting of his measures—in short to fill in the niche he had modeled for himself."

Tyson[16], writing in England in 1906 upon the convalescent stage of disease, was well aware that patients were usually sent back to work too soon. Two years later, Worster[17] emphasized anew the desirability of employing physiotherapy during convalescence.

Armstrong[1], following the lead of Frankel, again emphasized the extreme importance of considering the convalescent stage of disease from the point of view of hospital management, quoting Plato to the effect that the poor man has no time to be sick. He estimated that of the 31,334 patients discharged from the Bellevue in 1906, of whom only 13,825 were reported improved, probably 44 per cent. were not fit to work and doubtless 30 per cent. were in need of actual further treatment. Armstrong pointed out that England, France, Germany, and Switzerland had all recognized the necessity of sending city hospital patients to the country for convalescence. Thus at this time there were known to be 278 recognized convalescent homes in England, of which 13 were connected with the London hospitals. He reported that whereas 20 per cent. of the patients from English institutions were sent to convalescent homes, but 10 per cent. of the patients from the Massachusetts General Hospital were sent to its Waverley Convalescent Home in spite of the fact that this home was not used to capacity*; he added that at least in England the cost per bed for maintaining such a convalescent home was but 50 per cent. of the cost of maintenance in the large city hospitals. Armstrong was convinced that convalescent treatment should, even for purely economic reasons, be absolutely separated from acute hospital

* This Home was closed in 1914, and has not since been utilized.

treatment; also he believed it important to promote a special society which should further the convalescent hospital idea.

Convalescent care in this country received what has proved to be its greatest stimulus through the generosity of an elderly merchant of New York, who, dying at the advanced age of 97 years, left his entire fortune of several millions, for the founding and maintenance of an institution for the free care of the convalescent poor of New York, the institution to be known as the Winifred Masterson Burke Relief Foundation.

This institution, upon which actual work was begun in 1912, was opened in April, 1915, with a capacity of approximately 300 beds. The hospital itself is connected with the hospitals of the city through a receiving department in the city, transportation to and from the city being carried on most satisfactorily over the roads to White Plains by means of a large and specially constructed motor omnibus, which has a capacity of thirty or more patients.

In preparation for the opening of the Burke Foundation, a careful study of the convalescent situation was made by Brown[3], who in 1911 stressed the importance of physiotherapy and occupational therapy. Reviewing the New York hospital situation, he estimated that 60 per cent. of the surgical and 40 per cent. of the medical cases in acute hospitals required organized convalescent care. Of this number, he estimated that 20 to 30 per cent. would be eligible for a convalescent home. Of this 20 to 30 per cent., approximately 35 per cent. would be males and 65 per cent. females. He believed that three or four times as many females as males would accept care at an organized convalescent home, due to the fact that men feel more keenly than women the responsibility for their homes.

Brown attributed the rising death rate from common diseases to the increasingly large numbers of dispensary patients who were being continued in a state of semi-neglect rather than permanent cure. He also attributed to inadequate hospital care the rapidly increasing frequency of chronic exhaustion among the hospital and civil population, explaining it by a lessening resistance to disease. He concluded that about 4 per cent. of the male and 10 per cent. of the female out-patient cases would accept convalescent care, an average of about 8 per cent. of the total hospital population. Brown further pointed out that 20 to 60 per cent. of the colored hospital population required convalescent care; and that of these, 60 per cent.

would be women. The average duration of stay in a convalescent home he estimated at three to four weeks, with approximately two to three months for the heart cases. The heart cases he assumed would total nearly 30 per cent. of all convalescent cases, with the neurasthenics averaging perhaps 5 per cent. of the total group. He also pointed out the essential nature of social service in follow-up work, and indicated the value of having a city office for more intimate contact with the home situation of the patients. In connection with the importance of occupational therapy, Brown noted the value of useful work or even lessons and instruction, together with house work for the women. He then quoted the following from Florence Nightingale, concerning the value of occupation: "A little needle work, a little writing, a little cleaning, would be the greatest relief the sick could have if they could do it. Bear in mind that you can have all these varieties of employment, bear also in mind to obtain for them all the varieties they can enjoy."

Taylor[15], in 1911, remarked upon the value of a movable camp for convalescents, and McConnell[9] emphasized the necessity for follow-up and after-care of patients leaving the acute hospitals.

Two years later, Pool[13] recommended early systematic exercise. Freeman[6] noted the importance of giving adequate advice to patients leaving hospitals after surgical operations, concerning such points as supporters, dressings, diet, the care of the bowels, social duties, the number of visitors, hours for rest and sleep, the use of stairs, and other exercise; not forgetting information concerning the proper time for returning to work.

In the same year, Barringer[2] wrote upon convalescence, referring under general headings to the care of the diet, the value of climate, exercise and the necesssity for a cheerful mental environment. Under special headings were mentioned the care of the nervous system, the circulatory system, and the digestive apparatus; and in addition, special instructions concerning the post-operative cases.

Galbraith[7], also in 1913, considered convalescence and the progress of patients from chronic invalidism to efficiency, stressing the etiologic importance of over-work, poor food, stimulants, alcohol, chronic debility, lack of exercise, wrong clothing, nervous prostration, and last but not least, loss of hope. Galbraith recommended rest, good air, plenty of water, simple food, exercise and massage, pointing out that part of the exercise must afford amusement, diversion, and recreation.

Now and then in the literature of any subject, there appears a paper which within reasonable length compresses so much of importance that it cannot be presented in abstract without undue loss to the seeker for knowledge. In this category must be included two papers from the Burke Foundation, and one by Bridgman.

The first of this important group of three papers is also the first serious publication from the Burke Foundation. It was given in 1916 by Dr. Frederic Brush[4] (medical director of the Burke Foundation), at a symposium on Hospital Efficiency, under the title of "The Convalescent Field—Its New and Changing Border Lines." It originally appeared in the *Modern Hospital* for June, 1916, and is presented herewith in full for the thoughtful consideration of all students of convalescence.

THE CONVALESCENT FIELD—ITS NEW AND CHANGING BORDER LINES

The hospital efficiencies most needing development are not now internal, but are in the lines of the hospital extensions—in work for health outside of the main buildings. Better dispensary service (with some branch stations), health center work from hospitals, adequate social service, long-term "follow," prevention, convalescent supervision—these indicate the main attracting possibilities of the newer hospital efficiencies. The American hospital is yet greatly underrated as a health instrument. It survives many stresses, grows steadily, and gets funds beyond almost any other organization. The present need is not for so many new, small, and precarious associations, but longer, stronger extension arms to the hospitals.

Hospital efficiency thus covers convalescence, which is taken here to include health increase, health holding, and prevention of health deterioration. Raising the sick, handicapped or sub-normal, to their fullest working efficiency, and keeping them there, differs widely, as a plan, from the old admitting, treating, and discharging of patients.

What are the *fields of convalescence* as at present demonstrated or foreseen? The question is coming rapidly into importance. Millions of dollars in this vicinity alone are awaiting, or already planning, expenditure in convalescent lines. We need not here review the long history (mainly in England) of the convalescent home, for it is evident that this country will develop its own types. Roughly—and with much gradation, of course—we may outline our convalescent care as follows:

1. The older type of convalescent home; usually small, taking part pay for services when possible, equipped to give rest and good food, and necessarily admitting but few yearly and from a very restricted class. The work of these homes will probably not increase much. Some are being discontinued with the passing of a supporting personality, or group; others are falling behind in efficiency (poor locations, etc.). Their product will be fairly good, but small, comparatively.

2. The larger convalescent institution; accommodating from 40 to 300 or more, and affording, in different degrees, nursing and some classification of patients, medical attendance, surgical dressings, recreations, physical therapy, occupational training, etc. These homes may be governmental, or private corporate, or branches of hospitals or organizations. This promises to become quite distinctively an American type of health plant; the formative stage only is entered.

3. The country branch hospital; for years proposed and discussed; significant that it has scarcely been attempted. The hesitancy of managers to try it has been wholesome, probably. Ideas have changed, and there begin to appear more definite and feasible plans for what will be more the suburban branch of the large city hospital, located upon ample grounds (for sure growth, even to becoming the main institution later), within four to twelve miles of the parent (reachable by staffs and visitors), and giving cheaper and better accommodation to a considerable percentage of early transferred patients—as well as standard hospital, dispensary, and social services to the contiguous community. Some convalescents would also be accommodated. Costs should be one-fourth or more lower than in the main institution. Centralized management of extensive health plants is not the least of the advantages instead of many small struggling new institutions. Grace Hospital, in Detroit, is valuably leading in this direction.

4. The pay convalescent home; there is a very moderate but persistent demand for this. A serious gap exists with us between the free home and the often unsatisfactory and expensive private sanatorium. Such a place needs to be small, and, above all, partly endowed, exceptionally equipped and managed—its rates from $7.00 to $20.00 per week. Pay convalescence as attempted thus far in small houses, usually by nurses, has mainly failed, financially and otherwise.

5. Home convalescence; to be more definitely organized as a branch of health work, probably in the social service departments, with overlapping avoided.

Outline Plan

1. Patients to be chosen, generally before ready to leave hospital, and certain ones selected for this kind of convalescent care (as certain others would be for the convalescent homes).

2. Patient's home to be arranged in advance, and to be further organized on arrival of patient as to room, bed, air and sun, noises, bathing, rest periods, surgical dressings, visitors, housework, feeding of patient and family, family physician's coöperation, children, and patient's therapeutic and then productive occupation as strength returns. The Boston Dispensary is pioneering in this.

3. Experiment tried best with hospital having well-developed social service, to coöperate rightly in selections, and with one to three special home convalescent workers, in a convenient limited district.

4. Cost accounting from the start; hence enough field to give a typical experiment.

5. Card records and long-term "follow."

Advantages of home convalescence properly directed:

a. Low comparative costs, probably one-third that of institutional convalescence.

b. Continuity of service to the patient. (The added break of going to country convalescence deters large numbers. "Going home" is restorative in many cases.)

c. Home held together.

d. Home educated—bettered.

e. It would cover the great majority who will not, for various reasons, go to convalescent institutions (probably 60 to 80 per cent. of those needing convalescent care).

6. Convalescence within the hospital; some things can be added here in most hospitals. More use, with classification, of balconies and grounds, table feeding, occupation, libraries—these indicate the ways, especially for the many institutions blessed with acreage; *e. g.*, an inexpensive convalescent camp on the corner of the ample grounds of a large hospital is being considered.

So much for the convalescent plants and their organization. *But who are the convalescents*—rightly to be sent to these various and increasing homes? Five years ago the list might have read: "Persons recovering from operations or illness, with little or no surgical dressings, and able fairly to care for selves; and certain deserving persons temporarily distressed and out of place in life."

But the more recent extensions and plans in the convalescent field cover:

1. Surgical dressing cases—and these quite broadly. Wounds heal more rapidly in the convalescent home for various obvious reasons. Sun treatment may be given; physical therapy instituted and continued; the surgeon's coöperation held by phone, letter, or visit; exercises and occupations started which toughen and train and cheer the patient for sooner and surer re-entrance on productive life. Motor transportation is successful in many classes of fairly recent operation. At the Burke Foundation we are doing 800 surgical dressings per month, and we welcome nephrectomy, empyema, mastoid, many recent fractures, wounds with drains, etc., etc. Results are most satisfactory.

2. Heart disease. This large problem can be touched here in outline only, but convalescent homes must learn how to let down the bars, measurably, on this most prevalent illness. They cannot well do this (so negative and even disastrous have been results in the past) until the machinery for the proper selection of patients is set up and running; nor until they are themselves equipped with requisite medical and nursing attendance, occupation therapy, etc. Special institutions and means may well be devised for these sadly handicapped (as the trade school for cardiacs of New York), but heart disease has so many grades and is so prevalent, in all the zones of life that surely considerable numbers should be convalesced regularly in the larger standard homes.

Three examples of feasibility:

a. Those with fair compensations and reserve should not (as now) be refused because labelled "heart disease," "a murmur," etc., when needing (as so often) *convalescence for other reasons.*

b. Those who just "tire on the job" frequently, with fairly holding compensations, should be given periodic upbuildings, and in this way kept in productive life.

c. Youths should be given first place in cardiac convalescence, and many more beds opened to them. *Youth is to be the main point of attack on heart disease.* Recent experiments of the Burke Foundation and others show, apparently, that country convalescence of cardiac youths is surprisingly successful, and without very special equipment or precautions.

These three phases have here been entered on. Cardiacs recovering from recent severe attacks should *not* be sent early to standard convalescent homes. They relapse too frequently. Prolonged hospital or house care and "follow," with ambulatory attachment to "cardiac classes," and occupational supervision, is their inadequate best chance now presenting.

3. Men—We have had almost no convalescent places for them. The need is probably one-half that of women, and is on the average *a surer need.* For example, no convalescence equals in certainty and gratification that of, say, the post-typhoid sailor or laborer, without friends or room or fit clothes, weak and neuralgic, but courageous and sure of happy productivity if he "gets on his pins"—and pretty sure of bad city deteriorations without this convalescent aid.

4. Rheumatism. The situation is somewhat like that of heart disease. Relapses are discouragingly frequent, apparently from just being sent out to convalesce—the mere change. Who cares to feel the responsibility for a single recurrence of rheumatic fever, with its probable end-results? Longer in bed, longer about the hospital and the home, and then country convalescence only if specially needed for general upbuilding, or complications, seems the best course at present. Special institutions have been proposed for rheumatism and the arthritics, but the indications are not yet clear. Much of this class will naturally be cared for along with heart disease, and heart disease is going to be covered in more comprehensive ways in the near future.

5. Tuberculosis. Bone, kidney, and like forms should be quite freely received, and given longer stay than average. And, despite the probable necessity of stating that pulmonary tuberculosis may not be admitted, it will be frequently present in the convalescent institution, if the place is giving a high kind of service. Signal benefits may be rendered there in treating and observing, and insisting on full diagnosis, in that large group labelled, "threatened with T. B.," etc. (and who nearly always have it). This is adult preventorium work of much importance. Then, there is the small but definite class just returning arrested from the sanatorium for tuberculosis, and needing (most often for social reasons) a few weeks of continuation care while right environment is being arranged. Even the quiescent, admittedly lung-affected may occasionally be accepted, with precautions; for these so often in other ways, and for brief period only, need precisely what the country home can give.

6. Mental convalescence. There are possibilities, rather vague as yet, of bringing into the convalescent field the early or oft-called "borderline," or "observation" mental conditions, and some of the nervous diseases and habits. The gap in our provision for the treatment of the poor and middle people in these troubles is painfully apparent. It is, however, a most difficult problem.

A crude, but at least debatable, starting program may be outlined as follows:

a. Convalescence in the standard home? No; not only fails, but reduces the good of the place to others. Experience is fairly adequate for this judgment.

b. A very large general convalescent plant with much land might try a separate cottage, with special service, and give partial use of the general occupation, amusements, library, etc. This would be fairly economical, but complicating and doubtful of success.

c. The existing institutions for mental diseases, both State and private, should be outfitted to greatly extend convalescent effort. They have broad lands, separation and camp possibilities, central service and occupation plants, and some "follow" becoming available. The "asylum" stigma is lessening, and will be fairly outworn in time, especially by just this work.

d. The special mental convalescent institution is in many minds. It would take certain patients from asylums and others directly, and should be complete in occupation especially, have moderate pay and free beds, and be really a first-class sanitarium, but endowed for one-half support at least. It might best be near the city, in order to link up closely with normal life through an occupation-employment-sales center, serving several organizations perhaps. The establishment of this latter should precede the convalescent institution. *Success in mental convalescence is going to hinge on occupation:* and occupation therapy is measurably failing everywhere because of *lack of sales outlets for its products.* Costs would be $2.00 to $3.00 per day per capita; length of stay, three to twelve months; cost per person $300 to $1000; failures many—probably a majority. This gives us pause, and should make us constantly compare the institutional plan with mental welfare work, in the homes and in occupational centers, and the use of existing occupations.

7. Adolescence. This vital age of 12 to 16 "falls between" as to institutional care, and for well-known reasons. Thirty beds for boys and a like number for girls have been opened here this year, and results are gratifying. Separation care is desirable for this age.

8. The colored people. Over 100,000 in this community and increasing by thousands each year, with practically not a convalescent bed for them—expensive health policy, of course. We all lose or gain together. A separate small home is the answer. The Burke Foundation is now conducting such a branch, and it is proving to fill a definite need. They respond with peculiar happiness and success to country convalescence.

9. Preventive convalescence (using the latter term broadly). Is only in beginnings. Some fear the building of

too many convalescent institutions. With this preventive health upbuilding well under way, there would be needed five beds where now is one. We have tested and estimated that, at lowest, 10,000 adults per year should and would go out for short periods of health building from New York dispensaries alone; a little over 500 may go this year. The dispensaries and the various social services must be the main dependencies in finding and sending these patients. The medical-social machinery to accomplish this does not yet exist, or is inactive. This is really the big end of the convalescent job; and scarcely anybody is on it. But good beginnings are made. Employers, department stores, friends, physicians, various societies, schools, health boards, etc.; are co-operating a little. The dispensaries are as yet disappointing in this, and apparently must await special salaried social workers in them.

There are lesser side-lines of convalescence, as the fresh-air camp, mothers with babies, orthopedics, etc., which we may not here discuss. We have looked over the main convalescent field, with the more recently entered or proposed extensions—surgical dressings, cardiacs, rheumatism, tuberculosis, borderline mental, men, adolescents, colored, preventive. These represent wide expansions. There is danger of overdoing convalescent provision in some directions. The borderlines will best be determined, somewhat slowly, by experience.

REFERENCES

1 Armstrong: N. Y. Med. Jour., 1908, lxxxvii, 437.
2 Barringer: Women's Med. Jour., 1913, xxiii, 147.
3 Brown: Burke Foundation, Report upon Convalescent Homes, 1911.
4 Brush: Mod. Hosp., 1916, vi, 393.
5 Frankel: Med. Rec., New York, 1905, lxviii, 693.
6 Freeman: Jour. Am. Med. Assn., 1913, lx, 1133.
7 Galbraith: Woman's Med. Jour., 1913, xxiii, 145.
8 Lewis: Jour. Balneol. and Climatol., 1903, vii, 65.
9 McConnell: Lancet, 1911, ii, 431.
10 Oddo: Bull. et mém. Soc. Méd. d. hôp. de Paris, 1905, Series 3, xxii, 207.
11 Oddo: *Ibid.*, 371.
12 Pool: Jour. Am. Med. Assn., 1913, lx, 1202.
13 Rowell: Buffalo Med. Jour., 1904, NS, xliv, 792.
14 Taylor: Medicine, 1905, xi, 658.
15 Taylor: N. Albany Med. Herald, 1911, xxix, 169.
16 Tyson: Clin. Jour., 1906, xxviii, 208.
17 Worster: Med. Rec., New York, 1908, lxxiii, 942.

III

A Chronological Review, From 1917 to 1920*

In 1917, two years after the opening of the Burke Foundation, there appeared two important papers upon convalescence, based upon the work of the Foundation, one by Sturgis and the other by Brush. Sturgis[10], writing as the President of the Foundation, reported that about 6000 patients per year were being cared for at White Plains. The buildings themselves were placed advantageously, in the gently rolling 60-acre tract comprising the Foundation. There were being accepted the following classes of convalescents:

1. Men in large groups.
2. Boys from 12 to 16.
3. Colored patients.
4. Cardiacs.
5. Severe surgical dressings.
6. Lung diseases.
7. Drug addicts.
8. Tuberculous patients (specialized).
9. Rheumatism.
10. Special borderline nervous or mental cases.

The aim was to increase the proportion of formative, constructive, preventive convalescence. At this time, 1000 surgical dressings per month were being cared for. The importance of recreation and occupation were realized. Thus Sturgis reported that "occupation is not chiefly diversional, but remedial, reconstructive, curative, convalescent—normalizing. It is not a side issue; it costs—it is our best medicine, and is prescribed in writing for more than a fourth of all our patients." Young cardiac cases were considered the fore-

---

* Bryant: Boston Med. and Surg. Jour., 1923, clxxxviii, 687.

most problem. Next in value was placed the keeping of subnormal people at a reasonable though limited level of production through "preventive convalescence." The basis of this work appeared to be properly supervised vacations. The results of convalescent care at the Burke Foundation were summarized as follows:

1. Speedier and more complete recovery of those who have been acutely ill.
2. End-results improved.
3. Preventive and holding recuperation.

The second of these Burke Foundation papers of 1917, by Brush[4], emphasized the importance of differentiating between home and institutional convalescent care, urging that more attention be given to the problem of home convalescence. Brush stated that "millions in funds, given for convalescence essentially, are being held back awaiting an answer to the question of whether there should be more country institutions or more application in the homes and the working places, or both—and in what proportion." Brush believed that with approximately 30 per cent. of all hospital patients and 6 per cent. of all dispensary patients needing convalescent care, about one-half of those in each group would accept such care. On this basis, there would in 1917 be a total of 40,000 to 70,000 convalescent patients per year for the city of New York. There were available, institutions which could provide beds for but 10,000 patients. In one New York hospital 25% of the bed patients were being given convalescent hospital care, a basis which would mean over 100,000 convalescents per year to be cared for from the entire city. Brush realized that thousands of these patients must be cared for in their homes if at all; he stated that the two methods were not interchangeable, and that convalescent institutions should not be clogged by those more properly cared for in the home, especially in view of the fact that home care costs only about one-third of that in convalescent institutions. He also pointed out the community health value of improved home convalescent care, quoting as an example the conclusion of the Boston Dispensary that 94 per cent. of the homes visited were unfavorable for proper convalescence. Brush disapproved of costly food for convalescents and said that every-day food in moderate or even limited variety completely sufficed for proper convalescence;

he attributed failure to attain convalescence to inadequate medical care rather than to the simple diet advised. In fact, Brush believed that "the greatest thing in convalescence is normality, especially in regard to food common sense." Under treatment Brush emphasized:

1. Extension of social service for the purpose of properly choosing patients for home or institutional care.
2. Necessity for special clinics such as those to care for Hebrews.
3. The desirability of having convalescent endowments apply part of their income to home extension convalescence care.

In 1918, Mann[7] reported upon the circulatory reactions in convalescence after infectious diseases. He concluded that the pulse reactions were not of any great value but that the systolic blood pressure reaction was important, since attention to this reaction indicated that with increased health increased work was required in order to produce the "delayed summit" reaction.

Powell[9], in 1919, remarked upon the importance of physical exercise in convalescence, referring especially to intermittent rest, and graduated work under the control of a physical expert.

Hexter[6], also in 1919, writing as executive director of the Federated Jewish Charities of Boston, deplored the difficulty of obtaining reliable information upon the subject of convalescence.

Bryant[5], in 1920, reported upon a system of physical development used by him in the treatment of convalescents in the wards of the Walter Reed General Hospital during the war, and Bott[2] reported upon the mentality of the convalescent patient.

One phase of the characteristically irritable and hypersensitive mentality of the convalescent patient is well illustrated in the following quotation from a recent autobiography[1]. "I was too weak and uncomfortable to realize all that had happened; and what I suffered from the smallest noise I can hardly describe. I would watch nurse slowly approaching, and burst into a perspiration when her cotton dress crinkled against the chintz of my bed. I shivered with fear when the blinds were drawn up or the shutters unfastened; and anyone moving up or down stairs, placing a tumbler on the marble wash-hand-stand or reading a newspaper would bring tears to my eyes."

It is curious that literature based upon Army experience in convalescent care is so difficult to find, in view of Thayer's[11] pronouncement upon this subject. He, reporting in 1919 upon the medical aspects of reconstruction from his vantage point as chief medical consultant to the A. E. F., stated that apart from the fundamental question of diagnosis, the medical man was confronted by two problems: prophylaxis, and his duty to the patient during convalescence. Thayer pointed out that in wartime the value of convalescent care is put on its proper basis in the reconstruction program. He noted that convalescent camps had proved a valuable factor, with their arrangements for work, play, rest, recreation, and amusement, and further remarked upon the importance of the psychological element in recovery. Thayer also pointed out that "war statistics in regard to the duration of convalescence have shown the need of convalescent departments in connection with large hospitals in which may be carried out every arrangement for the well-considered rehabilitation, mental and physical, of the convalescent patient."

There are doubtless numerous articles upon various phases of convalescence listed under such headings as "Irritable Heart." The writer has, however, seen but two articles from our Army experience devoted to the general subject of convalescence. The first is by Meyers[8], who reported in 1919 upon the convalescent camp at Camp Taylor.

The second of these two articles upon the general subject of convalescence, based upon Army experience, is the important paper by Bridgman[3], referred to on page 32 of this review. Bridgman, reporting his observations at a large convalescent camp in France, gives the first exact scientific data ever published concerning the actual duration of convalescence. His article, entitled "The Duration of Normal Convalescence," which originally appeared in the *Archives of Internal Medicine,* 1919, Vol. xxiv, p. 65, is presented herewith in full, and it is to be hoped that it will be most carefully considered by all those thoughtful persons who have at heart the future of preventive medicine.

THE DURATION OF NORMAL CONVALESCENCE

These notes on the duration of normal convalescence are the result of work that was primarily designed for the treatment of war casualties, especially those resulting from gas inhalation. It was hoped to reduce the period of convales-

cence for gas cases and to avoid the relative frequency of effort syndrome so conspicuous in the British army. In reviewing the first five thousand case histories, which are to be the basis of a report on the functions of convalescent camps, a sufficient number of different cases were found to warrant deductions and suggestions as to the optimum duration of the convalescence from peace time surgical and medical affections. Many of the neurasthenias and anxiety neuroses follow operations or acute infections, where the patient is allowed to return to the wear and tear of the usual activities of life after a relatively short period. It may well be that the prolongation of convalescence, with graduated exercises, which proved so beneficial in the case of physical injuries, will minimize the exposure to psychic trauma during that period, and thereby prevent the outspoken mental symptoms which are apt to follow, especially in those individuals whose psychic resistance is below the normal. The daily life of soldiers subjects them to strain and to labor more intense than that to which civilians are commonly exposed, so that the recovery to normal demands the attainment of a higher standard than is sought in civilian practice. However, one is concerned with the recovery of what was lost by sickness, and in that sense the results are comparable with peace time conditions.

The camp in question was the convalescent section of a group of base hospitals which had a total capacity of fifteen thousand beds, the camp maintaining two thousand patients. These hospitals were about 50 miles from the front, and, in times of stress, became evacuation centers where patients stayed but a few days on their way further back. But in the main, the soldiers, especially those with complaints such as are met with in daily life, were treated and then discharged to duty, reclassified, or sent to the camp for convalescence or protracted observation.

The underlying principle of the camp was the retraining, by graduated exercises, of soldiers who were on their way back to the front lines—a training point and not a hospital. It was essential to insist on military discipline in order that the men, on their discharge, should be mentally, as well as physically, qualified for their normal duties. A suitable amount of relaxation was afforded by games, moving pictures, theatricals, etc., which filled up practically all the time not devoted to the setting-up exercises, squad drills, hikes and fatigues—the whole being under medical supervision. The food was consistently good and abundant, and the sleeping accommodations were fair—tents for the most part, well drained and with canvas floors. The work was done during

the past summer and fall, so that no allowance need be made for the cold of winter. In general, the convalescence of the patients was favored by the local conditions.

On admission and discharge, a physical examination of the stripped patient was made in all instances, and promotion through the three classes, representing increasing physical demands, was dependent on the ability of the soldier to perform the work and play of the particular class without untoward symptoms. A small but satisfactory camp hospital, with access to the laboratory of the center, made possible a careful study of the individual during his stay.

The first qualification for discharge to full duty was the promotion of the patient through the two earlier and easier classes and his ability to accomplish the daily class work of Company Three—forty minutes of steady setting-up exercises, an hour of squad drill and a five-mile hike. If there were no contraindications, the patient was stripped and examined and then sent with his notes to the writer for a final check. How much better than the customary manner of feeling the pulse, palpating the wound, listening to the heart, telling the patient to be careful, and sending him from the ward to full duty! By the observation in the camp, his tolerance for exercise was known, and the patient himself knew what he could do.

A further very important point was realized at the camp. On discharge, the patient was fresh from drill and military discipline, which enabled him to rejoin his outfit and to take his normal place among his companions. He had recovered from the great loss of discipline that is bound to occur in the base hospital, and he had been led back into the normal routine of a soldier's life.

In order to confirm the results, a "follow-up" system was instituted. Letters of inquiry were sent to the different battalion medical officers two months after the soldier had been returned to his organization. (If the war had continued, a second letter would have followed after six months, and a third after a year.) The answers to these questions as to the patient's condition were most convincing. To date, about two thousand of these letters have been returned, thanks to the coöperation and interest of the regimental surgeons, and in more than 99 per cent. of the cases, the patients discharged to Class A, who had not been killed, wounded, or gassed, were fulfilling their normal functions. And those reclassified to lower categories were doing the work of their grade.

In order that the duration of stay in camp might not be unnecessarily prolonged, all patients were seen daily, after

their drill, by medical officers. Thus, men who were in good condition on entry to the camp were discharged three days after admission, the minimal time consistent with their promotion through the three classes.

To compare the duration of hospitalization of patients passing through the camp with those discharged directly to duty and not tested for their physical tolerance, a group of records was obtained from the hospital center of the period before the adoption of the convalescent camp, and before the rush of wounded and gassed necessitated rapid evacuation. These averages represent the periods which different physicians thought sufficient for recuperation. No follow-up system had been instituted for these patients, so that their final disposition is uncertain. But the writer, while working in a base-hospital, has seen some of those discharged return to the hospital for relapse, weakness, painful wounds, or inability to keep up. In addition, after longer intervals, some of those previously discharged patients returned with functional mental disorders, whose precipitating trauma dated from their original entry. In the early method of handling patients, the initial stay in the hospital was sometimes proved to be insufficient, but as relapses were treated as new admissions, a false idea was obtained as to the total time lost. Transportation in France was always difficult and very slow, and any reduction in its use was well worth while.

TABLE I.—MEDICAL CONDITIONS

Diagnosis	*Number of Cases*	*Average Stay in Hospital, in Days, Patients Not Going to Camp*	*Number of Cases*	*Average Total Stay in Days in Hospital and Camp*
Influenza	27	25	828	31
Pneumonia	24	35	170	58
Acute Bronchitis	33	24	233	36
Mumps	20	18	53	39
Measles	0	0	18	27
Scarlet Fever	8	57	7	77
Catarrhal Jaundice	1	17	7	38
Diphtheria	0	0	5	57
Tonsillitis and Sinusitis	34	19	90	34

TABLE II.—SURGICAL CONDITIONS

Hemorrhoidectomy	21	20	25	45
Herniotomy	31	24	41	50
Hydrocelotomy	6	22	7	54
Tonsillectomy	10	20	8	37

TABLE III.—WAR CASUALTIES

Gas	214	25	1,195	37
Enteritis	4	14	512	30
Concussion	6	25	192	45
Exhaustion	0	0	80	40

The preceding tables show the average duration of stay in hospital and camps under the two systems. The first group, with the number of patients on which the average was computed, comprises those who were discharged to duty before the existence of the camp. The second group, with its larger number of cases, shows the number of days that the patients were in the hospital, plus their stay in camp. In this collection, cases complicated by secondary or intercurrent diseases are omitted.

In looking over these tables, certain suggestive observations can be made. In the first place, it is important to learn that in practically every type of disease studied, the period necessary for resumption of normal function is definitely longer than was allowed at the base hospitals.

The influenza group, which included slight colds, fever of a few days' duration, or malaise of sufficient intensity to warrant the evacuation of the patient from the front line, is the only one to show approximately equal periods. The majority of these soldiers were fit for duty on their arrival at camp, where three days were necessary for the completion of their course of work, so there is an apparent agreement in the two series. But attention should be called to a fact, not evident in dealing with averages, that a great many of the patients who came to the camp in the late fall, when true influenza was prevalent, were held in camp for long periods—two to four weeks—while their stay in the hospital had been only a few days. It was in this group that a great many of the effort syndrome cases were found, necessitating slow promotion. In all the other groups the figures make obvious the need for a much longer period of convalescence than was generally employed. It is interesting to learn the results in the infectious fevers. Physicians do not appreciate that the average case of mumps will not entirely have recovered until over five weeks after the onset of the disease, that the duration of the average pneumonia, including convalescence, will take over eight weeks, and scarlet fever over eleven weeks. Leaving out the possible relationship between the lack of proper care during the period of convalescence and psychic trauma, one cannot but consider the danger associated with a lowering of bodily resistance to other infections—to tuber-

culosis and to cardiac infections, for instance. There may be some ground for the routine questioning of patients as to the infectious fevers of childhood, especially in the presence of an unexplained cardiac lesion, a mitral stenosis accidentally discovered, or a myocarditis without determinable etiology. May it not be that the frequency of these lesions might be materially reduced by a more careful treatment during convalescence?

Consider the group of tonsillitis and sinusitis. Most patients suffering from one of these infections are out of bed and back at their daily work after a week or ten days, whereas, in the case of these young soldiers who were in the best physical condition when they contracted the disease, it appears that the normal strength is regained only five weeks after the onset of the infection. Are we not, in our daily practice, taking risks greater than we have fancied? May not the neglect of proper care during convalescence be a source for development of more serious disease?

Similar reflections arise from a consideration of the records of surgical conditions. The average herniotomy needs several weeks of care before the patient is normal again, instead of the three and a half that are commonly allowed. So often one hears that some particular surgeon can get his patients who had simple cases of appendectomy out of bed and back to work in some phenomenally short time. Is that to his credit?

In the same way, it is conspicuous that the uncomplicated tonsillectomy requires over five weeks for complete convalescence. Certainly, the majority of patients do not allow themselves so long a vacation in general practice, nor do surgeons advise so long a period.

The results obtained seem definite as to the period required for complete convalescence. And it should be emphasized that the existence of a routine of graduated exercises and military discipline favored and hastened convalescence. It was the general rule that the patients clamored to get back to their organizations where their friends, accumulated pay and mail awaited them. For these reasons and from an acquaintance with the American "doughboy" it is hard to conceive that even a subconscious desire to remain out of the fighting could have protracted their convalescence in more than a very small percentage of cases. The medical supervision was real, and both the doctors and the ward masters soon became adept in handling the occasional malingerer.

This article is presented to the attention of physicians because it is believed to be the first direct attempt to employ

actual physical tests for the determination of the optimum period of convalescence, and because the periods determined seem so much longer than are generally employed.

For the purpose of placing the care of convalescence upon a sound basis of established fact rather than of casual impression, the importance of this report by Bridgman can hardly be overestimated.

Summarized, his Table 1 indicates that 147 general medical cases passing in the routine method from acute hospital to full duty status were given an average of but 28 days under medical observation. As against this, the usual method of procedure, careful observation of 1411 cases passed from hospital through his convalescent camp on the way to duty, showed that for similar medical conditions, the real or controlled time required to prepare such patients for front-line duty averaged 44 days. In other words, the patients sent direct from hospital to duty were discharged from hospital on an average of 16 days too soon, and consequently 16 days before they were actually fit for front-line duty. A similar study of the simpler surgical conditions (Table 2) indicates that routine discharge from hospital to duty came for these patients on an average of 25 days before full recovery might have been expected. Similarly, for the group of war casualties (Table 3), routine discharge from hospital is shown to have occurred on an average of 17 days before full recovery might have been expected.

Reviewing Bridgman's findings, one arrives at the following conclusions: Four hundred and thirty-nine army patients were discharged direct from hospital to duty after an average of only 24 days under medical observation. But 3471 patients passing from hospital through convalescent camp on the way to duty were proven to require an average total stay of 43 days before they could be certified as fit for full duty.

Here is an increase of 19 days over the total length of time required under the usual method of fitting soldiers for duty. It is of interest to note that this additional 19-day period, determined under accurate medical control as necessary for completing recovery, is almost identical with the average period of three weeks required for completing recovery in civil life, under such differing conditions as those existing at the old Parisian Convalescent Hospital of Vincennes, and the new Burke Foundation for Convalescents at New York.

Was it worth while to expend these additional 19 days per patient in preparing them for full duty? The answer is given in no uncer-

tain terms by the results of the two methods of treatment. The usual and shorter hospital method does not produce an exceedingly high percentage of permanent recovery. Although no absolute figures are available, it was the general impression of medical officers with whom the writer talked in this country, as also his own impression, that between 10 and 20 per cent. of the men discharged direct from army hospital to duty, returned to hospital within a relatively short length of time; in other words, the work of the hospital had not been completed and the patients being only half cured, did not continue in good health.

Bridgman was able to follow 2000 of his patients after their discharge to duty on the completion of training at his convalescent camp. The letters received concerning the status of these patients, through the coöperation and interest of regimental surgeons, prove beyond a shadow of doubt that in more than 99 per cent. of all Bridgman's cases, his patients discharged to Class A, who had not been killed, wounded or gassed, were fulfilling their normal functions two months after being returned to full duty status; those reclassified to lower categories continued to do effectively the work of their grades.

Such a high percentage of lasting good results of treatment, obtained in spite of the strains imposed by full-duty status on a modern battle front, are remarkable. They are justification enough, were any needed, for asserting and asserting again until something gets done about it, that by the use of similar methods equally good results may anywhere and always be obtained with our civil hospital patients, who upon their discharge must carry on again, in our perpetual warfare with disease.

In a word, the community has not done for the sick worker all that in the light of available knowledge he has a right to expect and demand of it, until there has been added to the average of three weeks of care in an acute hospital, an additional average of three weeks of skilled care in a modern convalescent home, where proof can be obtained of fitness to perform work before a patient is discharged from medical supervision.

REFERENCES

1 Asquith: An Autobiography, Doran, N. Y., 1920, ii, 253.
2 Bott: Canada. Jour. Ment. Hyg., 1920, i, 302.
3 Bridgman: Arch. Int. Med., 1919, xxiv, 65.
4 Brush: Med. Rec., New York, 1917, xci, 768.

5 Bryant: Am. Jour. Electrotherap. and Radiol., 1920, xxxviii, 85.
6 Hexter: Mod. Med., 1919, i, 532.
7 Mann: Arch. Int. Med., 1918, xxi, 682.
8 Meyers: Mil. Surgeon, 1918, xliii, 497.
9 Powell: Mod. Hosp., 1919, xii, 324.
10 Sturgis: Jour. Nat. Inst. Soc. Sci., Jan., 1917.
11 Thayer: Tr. Congr. Am. Phys. and Surg., 1919, xi, 66.

THE BURKE FOUNDATION

WHITE PLAINS, N. Y.—1915

PLATE 33

60 acres of grounds and 300 beds

IV

The Winifred Masterson Burke Relief Foundation*

No student of convalescence can afford to remain ignorant of the ideals, methods, and accomplishments of the Burke Foundation at White Plains, New York. With its great endowment, and its superb location and equipment (for some 300 patients), it has since its opening in 1915 been to the convalescent poor of New York city as a veritable oasis in the desert of clinical neglect through which these sick people must somehow pass on being discharged for the most part only half-cured from the hospitals of the city, before they can hope to have sufficiently recovered in health to qualify themselves, free from the danger of relapse, for permanent occupation.

The object of this paper is, therefore, to make available, through a rearrangement of material in its third and fourth reports (1917-1921), some of the accumulating practical experience which has been acquired by the Burke Foundation through its contact with the approximately 35,000 patients who have been cared for in the comparatively few years since this great charity first opened its doors to the convalescent poor of New York City.

Introduction

Institutional country convalescence is growing steadily in the larger population centers and gaining recognition as an essential part of any comprehensive health-plan. A distinctive American type of home is developing which takes the patients earlier in the convalescence, and receives many classes formerly considered inadmissible (heart disease, surgical dressings, border-mental, etc.). Judging individually each patient as to term required, carries them by graduated formative methods well onward into fitness for social living.

The prevention of illness and social failure forms an increasing proportion of this effort. Winter convalescence proves highly successful and needful; keeping places open for weeks or months in summer only leaves many regrettable inefficiencies. Men and older boys still lack adequate facil-

* Bryant: Boston Med. and Surg. Jour., 1923, clxxxviii, 951.

ities, but interest is rightly turning their way. The convalescent field is broadening in practice and in outlook; a recent study has been made of the provision and needs in this vicinity (see publications) and important coördinations and extensions are in process.

The consultant and advisory work of the Foundation steadily advances and assumes far-reaching importance. Consultations here and in other cities, writings, reports and addresses by Staff members, and representation upon various Boards and Committees indicate some of the channels of aid given to the spread and scientific direction of the convalescent movement in America.

History and Organization

The Winifred Masterson Burke Relief Foundation was founded and endowed by the late John Masterson Burke as a tribute to the memory of his mother. Terms of acceptance and the founder's purpose were briefly stated in the trust-deed as follows:

"The founder desires in his lifetime to dedicate a substantial part of his estate to the relief of worthy men and women, who, notwithstanding their willingness to support themselves, have become wholly or partly unable to do so by reason of sickness or misfortune, or have been discharged from hospitals before they have regained sufficient strength to resume their employments."

In addition to the foregoing gift made during his lifetime, Mr. Burke, in his will, left the residue of his estate to the Foundation.

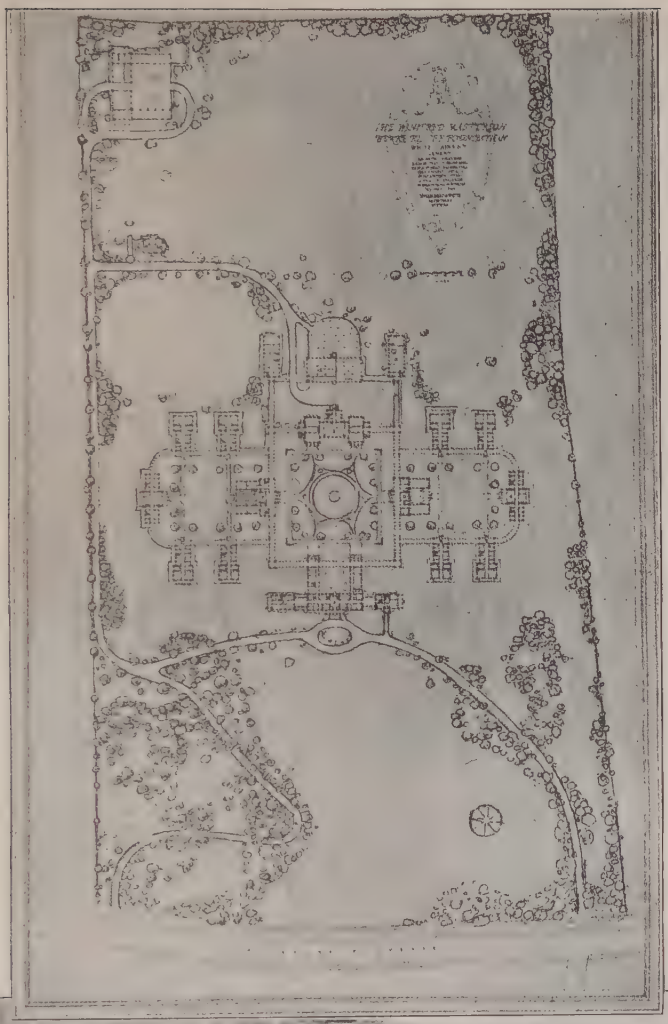
It is planned not only to restore to health and occupation those recovering from illness or surgical operation, but to prevent sickness and failure by providing a period of recuperation, with freedom from worry and care during temporary residence in healthful surroundings.

In the autumn of nineteen hundred and eleven a site was secured at White Plains for the Foundation, by the purchase of some sixty acres of land from the Society of the New York Hospital.

The deed of the gift called for the erection of brick buildings, and it was specified that they must be plain and of substantial construction. The group, in Colonial architecture, relieved and made cheerful by white terra cotta and marble, encloses a large central court, and at present comprises eleven main buildings—cottages for men and women, administration, dining, laundry, power house, garage and stable and superintendent's house—with provision for future extensions.

The institution at White Plains was opened, without formality, for the reception of patients, on April seventh, nine-

PLATE 34



Plot Plan—1915
and
Bird's eye View
Including anticipated expansions

teen hundred and fifteen. The capacity has been increased gradually to three hundred beds, appropriately divided between men, women, and adolescents, and the various classes of convalescents.

Convalescent Field

The Foundation has helped to demonstrate the need and the success of the institutional convalescence of men in large groupings, cardiacs, adolescents, the colored people, severe surgical dressing cases, hyperthyroidism, chorea, many forms of tuberculosis and the pre-tubercular—and has made advances in the experimental and limited reception of many border-line conditions hitherto considered inadmissible (lung abscess, gastro-enterostomy, psycho-neuroses, etc.).

Persistent organized effort will be made to secure a larger percentage of the so-called "preventive convalescence." On dispensary benches, in the street cars, at the machines and desks, may be seen these people who are tired and about to fail; in every employees' group are those working on too low reserve; many women are at all times approaching health-break in their homes; middle-aged men are feeling here and there the hopeless settling under cumulative permanent fatigue. These indicate the need of systematic direction of large numbers to these preventive, or merely holding recuperations.

Cardiacs with records of aggregate months in hospitals may be strengthened for long periods of reasonable productiveness; early nerve and mental borderliners turned back to fair livability and content; the tuberculous periodically re-enforced for their hard continuing battle; operations avoided, in selected cases, by upbuilding; the father or mother given temporary relief from the stresses of the struggling home; the breaking student nerve-rested; subnormal youths set forward with weight, blood, posture and character additions that are permanent; the discouraged and the indolent heartened and hardened for re-entrance upon normal careers.

The social-medical machinery for finding and sending these and like needful people out to country rejuvenations is mostly absent or inactive. However, by constant stirring and pressure at the sources we trust to steadily increase this "efficiency convalescence."

Chronics

Persons with serious chronic conditions are usually considered ineligible to convalescent homes. But the borderlines are ever vague, and many chronics find proper place in our temporary care. This consideration has become the governing one in deciding admissions in this broad class (which

includes most of the cardiacs, for example), and the word "chronic" is well-nigh set aside.

Those making application have learned to say: "We think that a brief upbuilding at the Burke Foundation will replace this chronically handicapped man or woman at work for a considerable period, or will prevent the threatening loss of it, etc." Keeping subnormal people at limited or intermittent production seems a most worthy function.

There is no sure border of chronicity for purposes of exclusion from convalescent homes. Each person should be judged as to disease, external circumstances and prospects of social living. Those returnable even to temporary and partially productive lives deserve the opportunity. The badly handicapped—as with malignancy, serious heart defect, bone disease, blindness—are at times given limited recuperations that may restore them to a measure of industrial or home usefulness and contentment.

Nor is convalescent age to be fairly scheduled other than by the above standards; for "years-old" are not fair measures of the reparability and potential communal values of persons. It is to be understood that old age (in its physiologic sense) reacts rather poorly in the active and somewhat restless country convalescent grouping; all welfare workers are insistent upon the need of many more "homes for the aged."

Preventive country recuperations are of proven success and importance in health-making and keeping, and main extensions in the convalescent field lie definitely in this direction. It requires, however, a great deal of social-medical organization to consummate even a fair beginning in this line. Those who should break environment and get away "in time" are not seen and selected, or are loath to go. In 1917 the Foundation circularized its patrons with view to getting a larger proportion of "preventive" patients. The results were becoming moderately gratifying, when war interfered. Resumption of the effort, requiring wide coöperations and long health-education, is planned.

Men

There are comparatively few beds for men convalescents in this great community. When their need of convalescence arises it is a more definite one than with women; the social workers recognize this. And the results with men are more rapid and measurable.

Respect for our average working manhood has steadily risen through this experiment. They wish to work and to care for others, and too frequently insist upon returning before they are fully recuperated. With the establishment

PLATE 35

City Admission Office

PLATE 36

Waiting and Rest Rooms—City House

PLATE 37

The Start to the Country

PLATE 38

Thirty-Passenger Bus Arriving at Administration Building

of customs and manners through some early persistencies and discipline, this large grouping of heterogeneous men, bound to be giving minor difficulties always, has come to adapt somewhat automatically, and to show while with us marked advances in the "higher things," as well as in health and courage-outlook.

Boys

The difficult phases of boy convalescence were chosen—represented by heart disease, chorea, nervousness, pleurisy, empyema and the prolonged surgical dressings, tuberculosis (other than active pulmonary), malnutritions, anemias, etc. Weight increase is not considered as important as gains in blood enrichment, bone, muscle and posture, manners, courage and standards—in nerve reserves, in ambition and in manliness. This general result—a "set-up" for manhood—while not strictly measurable, makes us wish to see places for subnormal boys multiplied, for no phase of institutional convalescence gives better results.

But the young boys were faithfully tried in a cottage with men at White Plains for nearly a year, and discontinued as measurably detrimental in the larger mixed grouping. The adult minimum age for the men's side was reduced to fifteen, and considerable numbers of maturer adolescents (including cardiacs) are now in residence at all times. These adapt well, and add the salutary influences of youthful cheer, entertainment and leading-activity.

Pay Convalescence

There is moderate but persistent and well-considered demand for pay convalescence. A definite gap exists between the free home and the expensive and often unsatisfactory sanatorium; here again it is the middle-class American who suffers most from lack of health opportunity. Such places should be established, partly endowed, and have rates that are frankly understood to be only partially supporting—thus maintaining valuable control-standards within the institution.

City Cooperations

There are now about two hundred different hospitals, societies, firms, etc., sending us patients, with nearly two hundred more agencies or persons listed as making enquiries or coöperating in various ways. Relations with them grow in cordiality and helpfulness. The importance of the hospital's readiness to take back patients in relapse or intercurrence of disease can hardly be over-estimated, as it encourages our acceptance of the sicker and more doubtful ap-

plicants. Thus the convalescent institution is able to give a maximum of specialized health service.

The Admission Department

An Admitting Office, with Supervisor of broad Social Service experience in authority, is of proven first importance. No excellence in country care can make up the wastage of a faulty choice. It is not too much to say that right admissions may double the health-value of the money and time expended. Through wrong selections alone a country home may become a fair vacation place, and yet be a fifty per cent. failure in convalescence.

With so many pressing for the opportunity, choice must settle upon the most urgent, needy and convalescable—with home conditions given full bearing. Organization and means are being extended also into the field of home convalescence, which rightly complements the institutional. At the Admission House lunches are served to patients before starting, reclining rest is provided, and the wear and tear of the admitting day tempered as much as possible. A few beds are available for those awaiting friends or placement. The methods of the Admission Department were particularly designed to avoid the inefficiences incident to a waiting list, and the exhausting disappointments of visits and examinations by the many ineligibles. The vacancies and the fitness of the applicants are usually well determined by telephone, and large numbers spared the useless inquiry or journey. Applicants now come so well examined and recorded generally that the presence of a City Physician has been discontinued.

The City House, after making a memorable record in war-service, is notably broadening its clearing-house and welfare functions, besides the daily routine of the selection and preparation of patients from the stream of applicants—with the assistance in their orientation upon return from the country. There appear no ends to the extension of these valued advisory services to this community of millions—save the time and endurance of those in charge.

The City House accommodates for the present the offices of the Association for the Prevention and Relief of Heart Disease; health and civic organizations use its rooms frequently for scheduled meetings, and many committees and other informal gatherings occur there in the various welfare interests. It is a fully justified and growing part of the Foundation.

Transportation of Patients

The ride out into the open country is generally remembered as a most attractive feature of the convalescence. Ill

THE BURKE FOUNDATION

PLATE 39

The Central Court
Covered service ways, broad lawns, wide concrete walks

THE BURKE FOUNDATION

PLATE 40

Early Spring in Woods of the Burke Foundation

effects are rare. Better transport of patients from the sources to our City Office would be desirable in many instances.

It is worthy of report, and important in determining the acceptance of more questionable cases, that the critically ill, requiring immediate hospital care, (pneumonia, relapsing heart-disease, etc.), instead of being endangered by the return trip reclining in the specially comfortable car, seem often rather to be improved by it—the slight vibration, the rush of air and the feeling of something positive being done apparently resulting in some temporary stimulation.

During the past year a specially designed thirty-passenger omnibus has successfully operated, making the twenty-six mile trip on ten-inch pneumatic tires in but little over an hour. Ill persons may recline on certain of the seats in case of need. Patients are moderately fatigued upon arrival (the day from early morning having been necessarily a trying one), but they respond quickly to the refreshment and rest immediately provided, and further ill effects are not recorded. Auxiliary sixteen and ten-passenger busses are owned, the latter adjusting to ambulance purposes for the return to hospital of those who occasionally become seriously ill—the inevitable outcome of admitting freely such wide classes in precarious states of health. Train service is utilized for overflow, or in severe snow-storms. The city agencies are now trying to get the patients to our Admission Department with least possible strain.

Ambulance transport to considerable distances of the very ill without injury is of proven importance because of its encouragement to take into convalescent homes the sicker and more needy classes, that are so generally excluded and deplorably "fall between" the standard health-care provisions. Also, ample land areas, suitable for convalescent care, are increasingly difficult to obtain near to the great centers of population.

Farm and Grounds

Men patients have been called to help on the land, and women to aid somewhat in cultivating flower gardens and play at hay-making, etc. But contrary to widespread and somewhat sentimental belief, farming in general is not here a very feasible convalescent occupation, because of the patient's short stay, the soiling of clothing and the general dislike of it. The old inspiring method of the country "bee" is however used often with much satisfaction.

Flowers, like music, are considered essential to convalescence, and are cultivated for all the seasons.

An infirmary was built and equipped, but it is now used for standard patients. Four "sick-rooms," held ready in

the different sections, are found to meet this need adequately.

It is worthy of note that the results in winter as measured by our various records and observations have been only moderately less favorable than in the warmer months. Important factors are our corridors, the subways connecting all buildings and used by patients in severe weather, and miles of extensive hard surfaced roads and walks. Concrete ground-terraces surrounding the cottages have proven to be most valuable adjuncts, giving dry, wind-sheltered places. There is kindly insistence upon much outdoorness. Four sleeping porches may be used for special patients. Sun-treatment is given. The following posted notice has effect:

To the Patients

It is not well for you to sit indoors too much; go out often, in all weathers; stand erect, breathe deeply; play outdoor games. Take a walk of 15 to 40 minutes before each meal. As you gain in strength, exercise more.

Nursing

The Directress has as immediate aides a Nurse-Assistant, a Dietitian and the Supervisor of Occupation and Recreation. The staff consists further of eight nurses, three of whom are undergraduates. Though the service has been steadily elaborated, one nurse has day-charge of from forty to fifty patients, made feasible by the constant enlistment of patients as assistants and leaders in various minor ways. A male attendant assists in each of the men's sections, and trusty long-stay patients are given many helpful duty details. There is no training school. The Branch Institutions are supervised by trained nurses.

Convalescent nursing is distinctive. It is essentially practical management and re-training of diverse personalities in various kinds and stages of subnormal health—physical, mental, moral. The nurse's influence during this malleable period is proven to be potent and lasting. For years after, patients refer back to their nurse in gratefulness.

The thrice-weekly admitting and discharging, involving important decisions, regulating of constant minor complaints and ills, daily readjustments as to rooms, companions, etc., questions of passes and visitors, doctor's routine examinations and orders, bed-patients' care, local amusement and occupation, physical up-keep of the cottages, and the constant cheer and "welfare" to be given—these suggest the peculiar breadth of this service, the importance of the nurse-personality, and the demands upon her buoyancy and strength. Yet the immediate good results, with the general atmosphere of rest and cheer react upon all attendants and

PLATE 41

Sewing, taught in groups such as this, will furnish a livelihood for a woman who perhaps, up to this time, has belonged to the non-productive class.

PLATE 42

Prescribed Occupational Therapy: Vegetable Preparation

PLATE 43

Spring Planting, Supervised

PLATE 44

Upkeep, Supervised

PLATE 45

Garden Work-Therapy

PLATE 46

One Hour a Day on Concrete Walk Construction

PLATE 47

One of the Playgrounds
Employees' quarters in background

PLATE 48

Portable Backstop Giving Play on Small Areas

PLATE 49

Horseshoe Pitching — Ideal Recreation

PLATE 50

Croquet Tournament—Competitive

PLATE 51

Short Golf Tournament—Competitive

PLATE 52

High School Girls' Hockey Team
The communal use idea

employees and give them notably improved health and contentment.

Dietary

Our insistently low-protein diet has proven most satisfactory in convalescence with its moderated physical activity and various degrees of organic insufficiency. Patients are at first often doubtful of its suitability; but the six years' records of nerve, strength, and weight gains, quickly established good digestive and eliminative functioning without drugging, and the constant testimonials of its educational values to home economics and health in the after-lives, are abundantly confirmatory of the method. Talks on dietetics are given to patients. Description and analysis of this broad dietary experience with diverse conditions and peoples is elsewhere published.

Recreation

Play exercise (physical and mental) is given first rank among the curative agencies; in large grouping it is most effective, for it may act on more persons more hours of the day than any other, and with greater ease and neuro-muscular improvement. There is no sparing of the facilities, and their use depends much upon leadership and on being near at hand. The provision includes a central assembly hall for motion pictures, dancing and various entertainments, daily papers, all indoor games, piano and other musical instruments, many cottage pool tables for both sexes, four short-golf courses, tennis, croquet, hockey, hand, volley, tether, basket and other ball play, soccer and baseball, snow sports, swings, hammocks and distant settees, etc.

Dancing (outdoors in summer) is ever foremost and best of recreations. Patients are urged into our sports and are practically never injured; they are, if anything, fearful too long, and grade carefully enough into the stimulating activities. Aggregate miles of hard-surfaced roads and paths leading directly from the extensive concrete terraces induce to walking and the out-of-doors in all seasons and weathers. Afternoon freedom of the adjacent country roads, and supervised hikes are given.

The splendid athletic field is open to the high school leagues and other visiting organizations, their coaching practice and well-mannered crowds adding much to entertainment and uplift.

Church, visitors, hikes and bi-weekly trips into the near town; music, woods and flowers, the dining and special refreshment hours, all the snow sports, field days, patient-talent entertainments, etc.—help to make the days go happily. But perhaps the most important, after all, of the recreational

agencies is just talk—hearty democratic interchange among the many coming and going weekly, gently wearing off the invalid edges and leading out of self to normality.

Constant inspiration is required, and advanced patients are enlisted to aid the Supervisor of the Recreational Department. The variously disheartened and doubtful persons grade all too slowly, and with proven safety, into play activities, which are prescribed, graduated, and even enforced with certain classes—as heart disease, neuroses, the persistent inertias, etc. Inducing re-entry of the older ones to younger age plays proves ever valuable therapy. Prize tournament and group-play is much used indoors and out. Cottage rivalries are stirred, and no inconsiderable convalescent effects thus precede and follow, and accrue ever largely also to the onlookers. There is convalescence in merely being out of doors.

It is not enough to provide play apparatus; leadership is needed. The onlookers in fact may get largest aggregate values; *e. g.*, a pool tournament is arranged to finish in the "assembly" before the entire institution.

Some advantages of the large institution are thus suggested. The near-normal community recreational activities serve to hold large numbers of the younger (men especially) who would not go to or remain long enough in the quiet small place (which may so well adapt to other kinds). In answer to the frequent query it may be stated that sex difficulties are minor and easily administrable; that the by-play of sex association is definitely convalescent (based upon the psychology of desire of each to appear strong, good-looking and competent to the other); that boys and girls are not deteriorated by convalescent residence with adults, but that each rather helps to raise the tone in the other age-groups. Men and women meet all day in the central court, in all assemblies, dances, etc., in group play and in occupation. A great deal of the best recreational therapy is impossible without this mixing that simulates everyday life—for which all are preparing.

Occupational Therapy

Occupational therapy has gradually taken large place in the reconstructive program. About 90 per cent. of our patients are in prescribed occupation for from one to two hours daily. All have light room-care and other cottage duties. New arrivals are given from one day to two weeks of rest and accustoming. The short average stay (three weeks, and but a portion of this time available for set occupations) necessitates peculiar adaptations.

Our occupation grows, however, and is considered not chiefly diversional, but reconstructive, curative; and is di-

PLATE 53

Out-Terrace Dancing

PLATE 54

Lawn Games

PLATE 55

Reminiscence

PLATE 56

Winter Upkeep—Both Sexes Helping

PLATE 57

The Curative Out-of-Doors in All Weathers

PLATE 58

Winter Convalescence Is Successful

PLATE 59

Supervised Coasting

PLATE 60

Winter Sports—Skiing

PLATE 61

A Stormy Day Indoors—Youth amuses age

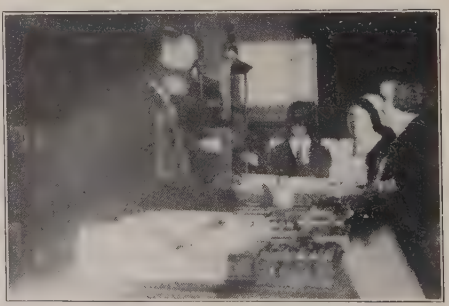
PLATE 62

Cardiac Dance Class

PLATE 63

Basketry

PLATE 64



Canteen
The country store idea keeps patients happy without city contacts

rected—not merely urged. It is prescribed, in writing, for more than one-third cardiacs, hyperthyroids, choreics, all the border mental and nerve folks, the inherently restless, all long stayers, the temperamentally difficult, the quitters, the pampered, the defibred and disheartened. Practically all patients do something daily for the institution, or for themselves and their homes.

We say: "Avoid another break in your health cycle (on leaving us); you can get ready for life-work only by exercising, hardening, working here." Our message back with the recuperated person frequently carries substance as follows: "This man came to us with vague future plans, mainly for continued dependence on family or charity; he had ceased to think in terms of work. He was at once set to helping others, and soon joined one of the occupation classes. Progress has been slow, but at the end of five weeks he is not only physically competent, but becoming restless to leave us and 'get a job.' This is the opportunity to reconstruct one man; will you see him placed, and then held for a seasoning period in suitable occupation?"

Work that gives physical exercise has gained in favor, especially if outdoors. There are the usual shops for cement, carpentry, general repairs, basketry, painting, art work, etc., and a percentage of sitting assignments is needed for the weaker and the variously crippled; but the best of this therapy is embodied in creating and keeping the place—grading, path-building, concreting, transplanting, forestry, lawn-care, gardening, and upkeep, snow-removal, preparation and care of the many sports-grounds, etc. Women moderately engage in some of these activities and do mending and "seamstress" work for the institution. Many minor "aids" and leaderships are devised for patients—as, library and book repair, mail, office help, errands, monitors, policing, athletic leading, etc.

The extent of this activity in one direction is shown by our having no seamstress department—patients covering all this, besides making surgical supplies and much new equipment. Thus they are in large measure making and keeping the plant, and they feel it rightly. Our employees are recruited mainly from the ranks of patients.

Some long-stayers grade into from three to six hours' daily work about the place, for a modest wage—and often from this into the regular employees' group. Tailor, barber, cobbler and other repair shops are manned by handicapped patients on a part-pay basis. The institution determines low-price-schedules and pays for the "fixing-up" of patients who are wholly without means. Money from sales of patients' products is applied to the Research Fund.

This prescribed, supervised, graduated work-exercise gives ever the well-understood physical and neuromental health values; but in our convalescence its first importance has come to be thought of as test of the individual attitude toward the reparative effort, and life ahead. Through this means alone there is a weeding-out of the mild malingerers, border-line neuro- and psychopathics, quitters, the too ambitious, the hypersensitive, the disloyal and disturbing; and special attention may then be given these measurably ill-adapting ones. It is gratifying testimony to the importance of this regime that increasing numbers are selected by health workers to be sent here for this very testing—in the hope that rehabilitation may begin with us.

Heart Disease

Convalescent homes generally do not receive cardiacs. The Foundation recognized the extent and importance of this problem even before the buildings were completed, and assisted in early outside experimental efforts. Selected heart disease patients were admitted from the start. Eighty beds are now apportioned to this condition. Over 3,000 heart patients have been treated—mostly benefited and strengthened, and instructed for better adaptation to social and occupational conditions.

About $200,000 have been appropriated to this work. Methods and results are studied and reported upon (available in reprint publications). The heart convalescent procedures are still undergoing experiment and change, but the essentials bid fair to remain: that selection and preparation of patients be held with those having wide experience in the requirements (practically the Special Cardiac Clinics); treatment to include rest, graduated exercise, continuation schooling, occupation-therapy and beginning vocational guidance—and usually some mental and nerve readjustments; length of stay to be determined separately for each patient; arrangements to direct the discharged patients immediately into suitable education, occupation and environment, and for their steady or periodic advising therein (Cardiac Classses); reconvalescence (briefer-preventive) when signs of heart or general fatigue appear.

Heart convalescence in New York and vicinity has grown within six years from the well-nigh negligible to the near ideal. Valued standards are forming; different homes are adapting to different classes and conditions; central information and clearing by the Heart Association is proving important. The prevention of diseased heart overstrain lags; organization has yet much to advance in this phase, for which country convalescence extensions will obviously be required.

PLATE 65

The Library—Managed by Patients

PLATE 66

Wood Shop

PLATE 67

Cardiac Boys in Toy-Shop

PLATE 68

Tailor Shop—Managed by Patients

PLATE 69

Patients' Shoe Repair—Managed by Patients

PLATE 70

Cement Ware

But if much is to be accomplished the condition must be met early. Heart disease is largely preventable—in youth; affected children and adolescents respond best to the rest-upbuilding; and their flexibility renders vocational and life-directing influences more effective.

The first one hundred and eighty, of over three hundred, cardiac boys (special investigation) sent out from "Sunny Brae" with a record of but two relapses at the home, 4 per cent. only of partial convalescent failures, and a "follow" record of 85 per cent. successfully in school or wage-earning one to three years after—should encourage additions to facilities for both boys and girls. The need is clear, and economically and socially important.

Why the country for this condition?—is asked. The rest and the diminished stresses, lowered incidence of the re-infections, open spaces and distances inducing to almost automatic and most beneficial walk, play, work and mental exercises—these and other advantages of rural environment precisely apply in reconstructive convalescence of heart disease.

Advice to Heart Patients

Persons with heart disease may have reasonably successful lives by choosing the right work, play and living conditions; and continuing under direction of skilled advisers.

You have come here to take the special strengthening treatment, and you are expected to fully coöperate in the prescribed rest, work, play, walking and gymnastic exercises.

The length of stay is judged separately for each patient; plan to remain until our physicians decide that you are ready to return and take up suitable occupation. Leaving too soon may result in another breakdown and permanent invalidism.

When discharged return promptly to the clinic that sent you out, and confer with them about your future.

Surgical Dressings

Convalescent homes may well do all of the smaller and many of the major surgical dressings while the patients are upbuilding and strengthening the more rapidly, releasing hundreds of hospital beds to proper use in acute and emergent conditions. But they are loath to accept most of these cases for fear of inability and complications, yet in no other way could they so safely and inexpensively add to their community service. Surgical dressing patients recuperate more speedily and surely than any other kind of convalescents, and should have these opportunities. The unfortunate disinclination of surgeons to let patients go out early enough is to be gradually overcome by the evidences of unusual wound-

healing and vital gains—better consummating their end-results in all ways.

A nurse gives full time to our surgical service, with resident physician's oversight; dressings (now totaling over 100,000) are made as simply and as infrequently as possible (aseptic, non-interference method), and there has been no single record of infection or other discreditable complication.

Two thousand dressings have been done in one month; the average is about 1,300. Naval occupancy doubled this work for a time; seventy empyemas were under care at one period, and it was our privilege to aid in the restoration of the seriously wounded Marines.

Wound coverings are reduced to a minimum, for air and sun effects. Patients with open wounds grade beneficially into the play and work exercises. Persons with persistent wounds, sinuses, etc., yet with fair reeserve and activity, are sent back after general upbuilding to be handicapped wage-earners, under dispensary or private care.

Surgeons who first sent many special directions now trust patients fully to us, knowing that they will be returned promptly if not progressing well, and also for all scheduled readjustments, examinations, etc. Early operative wounds, recent and compound fractures, the most serious empyemas (often passed back and forth through reoperations), colostomies, mastoids—these will indicate the range and importance of this surgical extension in convalescent service.

Dentistry

Convalescence is frequently retarded, or fails even, because of toothache and other dental troubles. Absorption may also be an important deleterious factor—as with cardiacs, arthritics, etc.

We are prepared to do minor dentistry, but more than this seems at present inappropriate to the convalescent stay. May we urge that the patients' mouth conditions (tonsils included) be given careful consideration before sending? Large health and time gains will assuredly result.

Clean-up and temporary work before admission, emergency dental care while at the institution, with adequate treatment immediately following—suggests the ideal.

Visitors

Regular visits to patients have been stopped after full trial and gradual reductions. Their ill effects considerably overbalanced their good; main consideration being that the mental therapy and the feeling of "change" so essential in this work, apply better without them. Visitors bring home-worries, undesirable gifts, and general unrest, which not in-

frequently take the patients away too soon. Individual exceptions are freely made, by written permit.

Statistical Report

May, 1917, to May, 1919; and May, 1919, to May, 1921.

	1917 to 1919	1919 to 1921
Number of Patients Admitted	7,816	10,111
Medical Cases	4,070	5,754
Surgical Cases	3,746	4,357
Male Patients	3,332	4,836
Female Patients	3,071	4,528
Navy Patients (Official)*		
Commissioned Officers 125		
Enlisted Men 1,288	1,413	
Boys (under 16)		458
Girls (under 16)		289
Cardiacs Admitted		1,176
Total Days Treatment	172,645	203,572
Average Patients per Day	236	278
Average Days Stay, Navy Patients	35	
Average Days Stay, Men	20	20
Average Days Stay, Women	20	19
Average Days Stay, Cardiacs		26
Average Weight Gain in Pounds, Navy Patients	2	
Average Weight Gain in Pounds, Men	3	3
Average Weight Gain in Pounds, Women	3	2
Average Weight Gain in Pounds, Cardiacs		2
Number Returned to Hospitals, Relapsed or Seriously Ill	45	44
Deaths in the Institution	5	7
Remaining More Than Four Weeks		1,549
Patients Sent by Motor Bus		6,439
Patients Sent by Train		2,916
Patients Sent by Other Conveyances		756

The terms "cured," "unimproved," etc., have no very accurate or valuable application to convalescent results. A small group might be listed as "unimproved," but losses in one way are often more than balanced by gains in another. In this latter grouping would be included that considerable number leaving for various unavoidable causes, after very brief stay.

* In addition, many from the various military organizations of this and the allied nations were treated.

Each is judged individually and effort made to consummate the high point of convalescence. Some are discharged in one week; others, after three to five months, as in cases of progressive healing of severe surgical wounds, etc.

Variety of Diseases and Conditions Treated

Nearly every diagnosis and subnormal condition occurring in this climatic zone is represented in our lists. The most important, given in order of numbers, are: surgical operations and conditions, nerve fatigue and the various neuroses, heart disease, pneumonia, gastric and intestinal ulcers, appendicitis, pleurisy, tuberculosis (mainly non-pulmonary and preventive), empyema, thyroid disease, influenza, bronchitis, rheumatic fever, anemias.

Conclusions

(From six years of service.)

1. Careful selection of patients—centralized, but with a moving zone of experiment—is of the first importance.
2. Motor transportation on large pneumatic tires is best and cheapest. The seriously ill may be safely returned over long distances in the modern ambulance.
3. The individualized length of stay, from one week to months, avoids the waste and injustice of a fixed period.
4. In general, a low-protein diet proves best in the period of convalescence. Special dieting (with attention to food fears or particularizing generally) has but little place in the convalescent home.
5. The prescribed play and work therapies are highly important in convalescence.
6. Heart disease, if rightly selected, may be given at least 15 per cent. place in standard convalescent institutions, but certain separate smaller homes are also desirable.
7. Different ages, classes, sexes, races, are successfully convalesced together. This association simulates normal life—being prepared for.
8. Homelikeness is secondary in the larger convalescent home; a measure of frank institutionalism, with its democracy and momentum, gives superior results.
9. A most important product of the good convalescent institution is its restoration of courage and right outlook—to a higher grade of living.
10. There is need of more convalescent provision for the nerve and mental border-line, men and older boys, babies and young children with and without mothers, certain lung conditions, orthopedics, and for the preventive phases generally. Surgical patients should be earlier sent out to homes.

V

The Cleveland Hospital and Health Survey*

All medical publications eventually find themselves graded according to their degree of technical and literary superiority. Out of the enormous total now being produced with such lavish prodigality of effort, there appear from time to time reports or papers conspicuous for excellence both in their conception, and in the high plane of their accomplishment and presentation. Among these selected publications, there will on occasion appear one worthy to be classed by Treves as qualifying for a place upon his proverbial postage stamp. Parenthetically, it may be recalled that Treves† habitually declared in his lectures that all the real advances in medicine for a given year could be written out upon the back of a postage stamp, in not too minute long-hand, and yet leave room to spare upon the back of said postage stamp.

Of this classically important variety, is the exhaustive and, from a community health point of view, all-embracing report issued in 1920 by the Cleveland Hospital Council. The number and quality of the investigators and collaborators in this project, the first of its kind, assure its impartiality and give added weight to its pronouncements.

From the point of view of the student of convalescence, it is therefore of importance to note, study and thoroughly digest all references and recommendations in the Cleveland Hospital and Health Survey which tend to throw light upon the so generally neglected problem of organized convalescent care as an aid to social and medical betterment of community life.

The paragraphs which follow bear directly or indirectly upon the problem of adequate convalescent care. They are directed toward the improvement of conditions in Cleveland. But if they are admittedly applicable to Cleveland, the burden is upon all other com-

* Bryant: Boston Med. and Surg. Jour., 1924, cxc, 1070.
† Dr. W. T. Grenfell—personal communication.

munities, both large and small, to prove to what degree and why, they feel entitled to claim exemption for themselves from accepting the responsibility which Cleveland has voluntarily taken upon itself.

The responsibility which Cleveland has thus voluntarily taken upon itself, is nothing more nor less than an obligation to provide, with the least possible delay, centralized organized care for its convalescent patients, men, women, and children, and on a ratio of not less than one convalescent bed for every ten acute hospital beds in the city of Cleveland.

One further point is worthy of mention in these days when things medical are so frequently looked at from the point of view of the laboratory, the hospital, and the physician. The Cleveland Survey, with what success the reader may decide, approaches the problem of convalescence from the point of view of the sick patient and of his family, and from the point of view of all the other families which together make up the lay community of Cleveland.

Two abstracted paragraphs (my sections I and VIII), are from a follow-up pamphlet entitled "Two Years After," published in 1922 by the Cleveland Hospital Council. The other paragraphs abstracted are from Part X of the original 1920 Report of the Cleveland Hospital Council. These abstracts, occasionally rearranged but without change of context, are herewith presented firstly in the belief that they should be more available than in their original form, for general medical consideration. Secondly, and even more important, because taken as a whole they constitute the most authoritative statement which is thus far available, bearing upon the fundamental necessity of viewing adequate convalescent care as a basic, vital, and ever present community problem in preventive medicine and public health.

I—Introduction

The Cleveland Hospital Council was incorporated "to promote the efficiency of, and coöperation between, the various interested hospitals, to the end of better meeting the hospital needs of the community, and to do all other things that are necessary and incidental to the proper conduct of the affairs of the Council and its constituent members."

The Hospital and Health Survey was made at the request of the Cleveland Hospital Council. Why did Cleveland need such a survey, or as Dr. Emerson states it, "the luxury of a diagnosis"? Simply because communities are often like individuals. When an individual feels the pres-

ence of ill health, he usually employs a physician to make a diagnosis. A community diagnosis was invited in this case. A community physician with a staff of consultants was selected "to detect the presence of all factors affecting health and to formulate all practical and economical measures, to decrease disease and to increase health." The diagnostic procedures employed were somewhat like those used by the regular medical practitioner; that is, history taking, physical examination, laboratory analysis. A course of treatment was prescribed, and the physician was requested to explain thoroughly both diagnosis and treatment, and to suggest some one to undertake the duty of seeing that the community takes its medicine—to make provision for follow-up and convalescent care. This was the aim of the Survey.

Some rather painful conditions affecting health were revealed, but these were not all detected or brought to light by the surveyors unaided. There was no hesitation on the part of the patient in making everything known to the physician. In some instances personal histories were freely confessed. Such concurrent action is essential to a sound community diagnosis.

Examination of the reports make clear that a very extensive course of treatment was prescribed. But it was not suggested by the physician that all of the medicine be taken at one time. "Were such the case," one observer remarked, "the result would have been like the story of the operation which was successful, but from which the patient died." Rational suggestions were made for following up the community case. Evidently, a long period of convalescence was foreseen.

The Survey reports were on the whole well received locally. Many favorable comments and reviews appeared in medical, hospital and health publications throughout the country. The following comments by eminent persons are most gratifying; "the report of the Cleveland Hospital and Health Survey . . . is the most constructive document in the field of preventive medicine that I have ever read." (Dr. Charles W. Eliot, former President of Harvard University.) "It is the most enlightened and far-sighted action yet undertaken in any community in the United States. It points the way for the guidance of other communities, and it is an example to all as to the kind of constructive effort, based on searching investigation of the factors involved, which must become more or less standard procedure." (Dr. Winford H. Smith, Superintendent of Johns Hopkins Hospital, in Jour. Am. Med. Assn. April 16, 1921.) "This series of surveys . . . is certainly the greatest single contribu-

tion that has been made to the problem of public health administration." (Dr. C. E. A. Winslow, Yale University.)

In spite of some rather sharp criticisms of their work, local public officials have considered the recommendations with respect to public departments on the basis of the good in them, and have made efforts to carry out constructive suggestions whenever possible. This is equally true of representatives of private agencies.

Survey methods and reports have not been entirely free from criticism. There have been both general and specific comments of a critical nature. The reports contain some inaccuracies, misstatements and a few errors. A destructive critic appointed to find fault might take these, shut his eyes to the good parts and write a story which might make the community consider the Survey of doubtful value. But this is not the Cleveland way. The Survey is being considered and judged as a whole, and from the point of view of the good in it. In our opinion, it not only has paid for itself many times over in dollars and cents, but also in increased human values; and, as the years roll by and further steps are taken along the lines suggested, even greater results will be recorded in added days of life, work, and happiness.

II—Hospitals

It has been sought in this section to point out not only general matters of interest to the city as a whole, but to indicate some of the kinds of facts which hospitals need to know about themselves; which the trustees and their representatives should have periodically reported to them. In how many hospitals do the monthly reports to the trustees show, for instance, the percentage of beds used in each of the main divisions of the hospital in proportion to the theoretical capacity of each division? Shrewd business men know just what facts to demand in regular reports from their own enterprises so that they shall be able to determine whether or not the business is well run. Trustees should be as discriminating in the selection of the facts which they ask to have set up as the guideposts for the business and policy of their hospitals.

It is of particular importance that the trustees understand what facts they should know of periodically, so that these may be presented in the monthly and annual reports of the superintendent. The percentage of beds used in each division of the hospital has already been mentioned as one of these important facts. The length of stay of cases in the different divisions of the hospital is another. At the time of the Survey census, it was found that, taking the general

hospitals of Cleveland as a whole, 44.6 per cent. of the patients had at that time been in the hospital from three to fourteen days, 13.2 per cent. had been in the hospital less than three days, 19.2 per cent. between fourteen and thirty days, 9.2 per cent. between one month and two months, and 12.9 per cent. more than two months (.9% not stated). The proportion of cases staying for these longer periods is higher than it should be in hospitals designed primarily for acute stages of disease. The reason lies largely in the lack of dispensaries and of facilities for convalescent and chronic patients in Cleveland, to which attention will be devoted later in this report. A study of individual hospitals showed wide variations in this figure, ranging from no patients staying over sixty days to as high as 29.9 per cent. A report showing the length of time that patients have been in the hospital, and the number in the various divisions of the hospital who had been there more than a normal period, should be of distinct value to the trustees as well as to the medical staff and superintendent.

III—The Human Problem of the Hospital Patient

"Treat not only the disease, treat also the man." These words of Rudolph Virchow set the standard for the highest form of hospital service. The two or three thousand patients who are in the hospitals of Cleveland daily, present the hospitals not only with a variety of bodily ills, but with problems of personality and environment which are as varied as human nature, and which influence vitally the ultimate success of the hospital's mission to maintain as well as to restore health.

Virchow's words set not only a standard but express a warning, for the hospital's great danger is overspecialization—attending to pathology and overlooking personality. Successful work in the operating room may be independent of what the patient is or thinks or feels, but successful restoration of the patient to health and living efficiency depends not only on the surgery but on the patient's state of mind after he goes from the operating room to his bed in the hospital and from his bed in the hospital to his home.

In a survey it is necessary to consider persons as well as patients, in order that a true picture be given of the hospitals' services, of their relationships to the community, and of their value and deficiencies, as judged by the final result in making people well and humanly efficient. The Survey has therefore endeavored to study the people and their reaction to the hospitals of Cleveland as well as the hospitals of Cleveland in their reactions to the people. Several hun-

dred interviews and conferences were held with physicians, including both members and non-members of hospital staffs; with nurses in hospitals and in public health fields; with social workers; with organizations of the foreign-born; with church workers; and with people met more or less at random in their homes or elsewhere.

Those who are accustomed to hospitals too often fail to recognize how new and strange an experience, to the average patient, is his first contact with a hospital. The admission procedure, the unfamiliar antiseptic odors, the sight of many sick people, the precise business-like efficiency of hurrying nurses and doctors, fill many a patient with vague and uncertain ideas of what may be going on behind the many closed doors, and what may soon be happening to himself. Courage is easily lost in the strange institutional atmosphere. The educated man who is familiar with hospitals, having previously been a patient or a visitor, and who is self-confident and at ease even during sickness, is in quite a different position from the uninformed immigrant who has never had contact with doctors or hospitals in his life, or the timid woman, or the sensitive child.

It is not that hospitals or their personnel lack kindness in the treatment of the patients. It is their business to be helpful, and hospitals and their doctors, nurses, and other personnel generally are; but it is rather that hospitals are helpful in a professional and technical way, while the patient is generally full of worrying questions he would like to have answered, of forebodings which it would be desirable to dispel, of states of mind which depress him, and which, if maintained, will hinder his recovery. These forebodings and these states of mind require not merely a general attitude of kindness, but sympathetic insight, clear analysis, and definite action to dispel.

The human problem of the hospital patient can be perhaps best illustrated by the foreign-born. On the two Survey census days, 63.1 per cent. of the adult patients were American-born, and 36.9 per cent. were foreign-born. According to the estimates of 1917, of the Cleveland Americanization Committee, there were 744,728 total population in the city, of whom 231,939 were of foreign birth, 466,142 native born of native parents, and 281,586 native born of foreign or mixed parentage. Those of the third group are largely children. Taking these figures, we find that the 231,939 foreign-born are 49.7 per cent. of the 466,142 native born of native parentage. This figure may be roughly compared with the percentage of foreign-born adults in the hospitals of Cleveland, which was just stated as 36.9 per cent. This illustrated

an important point which studies in other communities have verified—that the foreign-born adult generally uses the hospitals less than the American-born adult. This is largely because of lack of familiarity with an institution with which many immigrants had little experience, previous to coming to this country. It must be remembered that a large number of recent immigrants have come from small towns and many of them think, "Hospitals are places where you go to die." A considerable proportion of the foreign-born patients, moreover, speak little or no English.

The attitude of the foreign-born toward the hospital reflects all the light and shades of the hospital's own attitude toward its patients of foreign birth. Frequently the very human and impressionable surface which the foreign-born presents ready for the hospital's sign and seal, is masked behind an enforced silence because of unintelligible speech. Too often the phrase "ignorant foreigners" shows merely lack of understanding by the American-born. A common language is the searchlight most useful in discovering physical, racial, or temperamental needs, and means of adjusting the hospital regime to treat these. When the hospital has given time and thought to its task, it has been able through sympathetic interpretation to convince the patient of its friendly interest, its ability in diagnosis, its skill in treatment; and when this conviction is made doubly sure by intelligent follow-up work in the home, there is every evidence that the hospital's work is worth while, that the patient is grateful and appreciative, and that the experience has been of permanent educational value to him in the matter of personal and public health, and in the growth of a sense of social and civic participation.

The result is different when the hospital has had no specific machinery for getting at the back of the foreign patient's mind, and making the somewhat inflexible and mysterious hospital routine less a puzzle to him. The patient's mild skepticism as to whether American hospitals are good places for the foreign-born increases to a large doubt. This is further enlarged by his friends, who have trouble in being understood at the inquiry desk; who may be unable to talk with the doctor or to get the diagnosis. If a medical case, the patient worries through a retarded convalescence and goes home glad to be free—and wondering! If a surgical case, often his climax of protest against the vast unknown of hospital machinery is a refusal to permit operation. He leaves against advice, grateful for the somewhat peremptory discharge from the hospital, which, in turn, feels inwardly

affronted that its effort to help should be powerless before his unreasoning "stupidity."

In the seven hospitals the proportion of foreign-born adult patients was over 30 per cent., the maximum being as high as 47 per cent. No hospital in Cleveland has made any definite provision for interpreters, either as a matter of promoting the ease and comfort of the patient, or of increasing hospital efficiency. As a rule the hospital is concerned with "making the patient understand"—"We manage to make them understand somehow." Some other patient of the same mother tongue who has learned English is pressed into service, or an employee or a visitor is called upon. The problem, however, is not merely "making the patient understand," but is to render the patient "understood."

One important relation of the hospital to the community is the furnishing of information about the condition of patients. Patients themselves want to know how they are getting on, and their relatives and friends likewise wish this information. Hospital staffs and administrators must use their discretion in what they tell patients or relatives, just as private physicians do, yet the hospitals often fail to give elementary and necessary information or to give it in a way which will be helpful or even necessary.

Many inquiries come by the telephone. A story has been reported of an immigrant family, very anxious to secure information as to the condition of the father who had been taken to a hospital after an accident. Unable to speak English, the mother and her children had recourse to the neighborhood druggist. He called up the hospital three times, and was unable to learn anything that would satisfy himself or relieve the family's acute anxiety. The error was not inhumanity on the part of the hospital for the information was later furnished readily, but was due to the fact that the telephone operator had not been taught to appreciate the importance of interpreting the hospital to the public. This incident would not be mentioned were it not an illustration of many.

The importance of this duty is often not sufficiently clear to the hospital administration to make them provide adequate instruction to the person or persons who are responsible for answering such inquiries, either in person or over the telephone, or to cause the selection of a sufficiently trained and tactful person to perform this function.

Sometimes a mother is eager to see her child frequently. There are often perfectly good reasons why she should not see the child at all or during certain periods, but not infre-

quently there is failure to explain to an anxious family why the privilege is denied.

Interpretation of the hospital's work, rules and results to the public is part of the hospital's job. The public includes its own patients, their relatives and friends, and also the broader circle of the hospital's supporters, and any one in the community, in fact, who has a reason to be interested in the hospital's activities. This interpretation of the hospital's work, rules and results, is made partly in the hospital's formal reports and partly through its daily relations with its patients and those interested in them. Too little attention has been given to such interpretation through the channels of the hospital's routine contacts.

The patient's lack of understanding of the hospital is too often matched by the hospital's lack of understanding of the patient. The patient can be greatly helped to understand the hospital by the right procedure at the time of admission. Hospitals which maintain dispensaries should use the dispensary as the means through which patients are admitted to the wards. The provision of a trained and tactful member of the social service department in connection with the admission desk of the dispensary will serve to start many patients, who will later be referred from the dispensary to the wards, with some understanding about hospitals in general and this hospital in particular. From this standpoint, the two critical points in the patient's hospital career are the day of admission and the time of or just before discharge.

The critical moment for the patient, from the standpoint of disease, is often the time of admission to the hospital, but the critical time for the patient from his standpoint as a person is usually at or a little before discharge. The information gathered in Cleveland agrees entirely with the studies and estimates of Dr. Frederic Brush, the leading national authority on convalescent care, that the medical job is not done at the time the patient leaves the hospital. The hospital's responsibility as a hospital is not always to do this medical job, but it must link the patient with the physician, the dispensary, the convalescent home, or other organization which will perform the needed service.

The beginning of this connection is the explanation to the patient (or to his parents, if the patient is a child) of the patient's condition, in terms that will be understood by the lay mind; of what daily routine of diet, hygiene, exercise, and occupation is desirable during the period after discharge. Explanation to the patient or to those responsible for the patient, of the patient's condition on discharge and what may be called the needed program for after-care, is a

definite responsibility which few hospitals in Cleveland have met, save in exceptional instances. It is part of the hospital's responsibility to have a definite system for meeting this need.

At a few hospitals there has been established a so-called follow-up system, usually modeled upon that of the American College of Surgeons. This aims to secure for the medical staff the results of operations or the condition of the patient at a certain period after discharge, such as three months, six months, or a year. Such information is of medical value to the staff, and in the long run will tend to the advancement of medical science and the improvement of service to patients. But the term "fish-up" instead of "follow-up" should be applied to a method which merely secures facts as to a patient's condition a certain time after he is discharged, and does not in some definite and effective way help to make the conditions during this period what they should be. A follow-up and not a fish-up system is the standard which should be set in a progressive community like Cleveland, which wishes to obtain 100 per cent. value from the medical work of the institutions which it supports.

When it is found that six per cent. of 200 patients recently discharged from four of the leading hospitals needed continued hospital care—in other words, had relapsed since their discharge; when it is found that 12.5 per cent. in addition, were living under such home conditions that satisfactory convalescence was unlikely, it is apparent that expensive hospital service is easily wasted because of the lack of a little further service which would have made all the preceding work permanently worth while.

"Should the social service department have the responsibility for the problem of after-care?" No! The medical staff of a hospital have the responsibility for the care of its patients, and making a medical program for after-care is a part of that responsibility which cannot rightly or effectively be delegated. When it comes to carrying out the details of the work, the social service department has a definite place, as will be brought out more fully later in discussing this subject. The social service department can assist the staff of the hospital in securing the facts regarding the patient's personality, family, housing, home conditions, neighborhood, and finances, which, in conjunction with the medical facts known regarding the patient's condition, will enable the responsible member of the staff to formulate a program for after-care. When it comes to assisting in carrying out the program, the social service department gener-

ally has been and usually should be called in, either to make explanations to the patient or to arrange for contact with the Visiting Nurse Association, the Department of Health nurses or a charitable society which will be able to exercise supervision, to assist in improving home conditions or in securing the institutional care that may be required.

As the facts in the section on convalescence bring out, the need for financial aid during after-care is approximately much less frequent than the need for explanation and advice, given in terms of the patient's degree of education and understanding, and of the practical conditions of his environment.

The dispensary attached to the hospital should be used as one of the means of providing after-care of discharged patients. Reference of the patient to the dispensary should be made in every instance where further supervision is necessary and the patient cannot pay a private physician. This follow-up system should insure the actual return of the patient to the dispensary in a large majority of instances.

In summary, the patient's lack of understanding of the hospital, needs to be overcome by development of the admission procedure, which should be concerned with more than the elementary procedure of registration, assignment to a definite ward or room, and fixation or remission of fees, and which should include education and interpretative elements. The special problem of the non-English-speaking foreigner should be met at the time both by hospital personnel and through the coöperation of associations interested in immigrants, as above suggested.

The utilization of the dispensary as the place of admission for ward patients will, if the dispensary admission system is rightly organized and its personnel rightly selected, enable the average ward patient to go into a hospital bed with some previous understanding of the situation.

The hospital has a definite responsibility for interpreting the patient's condition to him or to those responsible for him, in terms which can be understood by laymen, and which will be a practical help; also of explaining and of helping (at least in the beginning) in the needed program for medical after-care. This is part of the medical responsibility of the hospital, and while a social service department is of great assistance both in securing facts regarding the patient's personality and environment, and in helping to carry out the medical after-care or referring the patient to an agency which will do so, a hospital which has no social service department should still be responsible and be able actually to provide

for at least the explanation to the patient or his relatives, and the definite reference of the patient to the needed sources of after-care.

The medical staff of the hospital, through its executive committee, should be expected to define the duty of the hospital in this respect, so the administrators of the hospital can have medical authority behind them for seeing that this responsibility is carried out by visiting and resident staff, nursing, and administrative assistants, and by the social service department if there is one.

Answering inquiries regarding patients is a definite part of the hospital's duty to the community, and should be fulfilled according to a definite coöperative policy by carefully instructed members of the hospital's administrative personnel. Coöperation with charitable agencies in behalf of their patients is a particularly significant responsibility of the hospital, affecting no inconsiderable proportion of the ward patients.

In the long run, the degrees of support of the hospitals of Cleveland will depend upon the degree to which their work is appreciated by the community. The elaborate facilities, equipment, staff, and organization needed for the thorough study and treatment of hospital cases require an increasingly high degree of appreciation on the part of the community of just what hospital work is, what it requires, and what it costs. The foundation of appreciation is understanding. Anyone grasps the beneficent service of a hospital to the emergency accident patient, but understanding of the less obvious and more typical cases, which constitute the large majority of patients, is not so easy. The patient's lack of understanding of the hospital is pardonable at the time of entrance. The patient's lack of understanding of the hospital at the time of discharge is a misfortune to the patient and to the hospital as well. Only on the basis of mutual understanding can adequate support for the best hospital work be built up and maintained in Cleveland.

IV—The Convalescent and the Hospital

Few if any cities have as yet met adequately the need for convalescent care. The most notable work in the country is that of the Winifred Masterson Burke Foundation at White Plains, New York, under the direction of Dr. Frederic Brush, whose significant contributions as collaborator in the Cleveland Hospital and Health Survey will be found in the next chapter. The bulk and general bearing of the convalescent problem in Cleveland is discussed in that place.

Mrs. Burns' contribution is a series of vivid pictures of what may happen to patients after they leave the hospital doors, and drives home the point that a sick man's sojourn in the hospital is only one stage in the journey betweeen illness and health. Too easily does the hospital forget this truth. Too often do hospitals in Cleveland as elsewhere feel, or at least act, as though they felt that their responsibility ended when "discharged" is written on the record and the patient is no longer within the building.

The care of convalescents is a much larger problem than that of a hospital or institution for convalescents. The bulk of convalescence takes place in the home, and particularly in medical cases, the whole course of the illness, from onset through acute stage, convalescent stage, and final restoration to health and vigor, may take place within the home. From this broader standpoint of the community, the convalescent problem is approached in the following chapters.

V—A Study of Hospital Convalescents in Their Homes

In attempting this study two things were very quickly apparent: (1) that convalescence is as much a state of mind as of body, and that environment which does not provide for the needs of both is inadequate; (2) that the back ground of convalescence is laid, the texture of it stretched and woven, while the patient is still lying abed in hospital. His mind is a sensitive shuttle threading with tireless insistence every impression of the hospital ward, whether grave, radiant, trivial, or profound, and coloring each with his mood of the moment. On the "date of discharge" (when shall we find a more gracious phrase?) the patient takes this mental "sampler" and during the time that he must "remain inactive" as the house physician says, he wonders over it all. If left to himself he makes a few alterations in this plan of return to health which the hospital has spread out for his interpretative copying. Every impression is traced and retraced, and his conception of health and of his part in holding it is framed in his idea of hospital service and remains pictured as a never-to-be-forgotten experience.

In seeing over two hundred such "pictures" one could often exult that the hospital had been interpreted favorably and with gratitude. When the interpretation had been distorted through mutual distrust and misunderstanding, regret was always followed by the conviction that a broader conception of the hospital's responsibility was possible, indeed necessary, and that it would more and more make the way straight for patient and hospital alike. Two points of view

will illustrate: (1) A Polish woman, after three weeks in a hospital ward, thus voiced her opinion on the Hospital Bond Issue, "She is like a great and wonderful mother who cares for many sick children, this City Hospital. If more money she needs let us say yes and give." (2) A man sensitive at being temporarily without money bitterly resented the hospital's attitude that he should pay his bill there because he had hitherto paid his private doctor. "Why should they think I should go to that place if I could any longer pay a doctor? Would anyone go who did not have to? I burn with shame when I think what questions they ask."

Thus convalescence is the state of mind and body on which the hospital may set its stamp as a friend and helper or as an autocrat without sympathy. The real service to the patient is but half done on the date of discharge. The test then comes, to decide whether the final stage of convalescence shall be to each of its patients a stimulating, worth-while experience or a lonely and difficult task to be faced against great odds.

The cases studied were two hundred discharged patients from four of the principal hospitals of Cleveland: Charity, Lakeside, City, and Mount Sinai. They were nearly all classified as free or part-pay patients. A few had apparently paid the full charge for treatment. They included a variety of foreign nationalities, of which Cleveland offers many: Armenian, Australian, Bohemian, Chinese, Greek, Italian, Lithuanian, Polish, Slovenian, Swedish, etc., a number of native American whites and a fair proportion of Negroes. The environment of patients seen ranged from that of wretched housing and extreme poverty to the completely comfortable house of the well-to-do.

The types of illness from which these patients were convalescing were contagious and general diseases, surgical operations, and accidents. There were also a few maternity cases. Their length of stay in hospital varied from five days to two months.

Half of the cases were seen within three to four days after discharge. The others were seen within ten days after discharge, with the exception of six surgical cases who had been told not to resume work for four weeks.

In the homes the reaction of the hospital upon the patient was noted: (1) whether the diagnosis and medical service had been understood, and was being followed with satisfactory results; (2) whether assistance of any sort would more certainly assure the result for which the hospital had

worked. In a word, was the best sort of convalescence possible for that particular patient in that particular home?

The convalescents seen were classified as follows:

Cases with Home Environment	*Total Cases*	*Per Cent.*
1. Favorable and adequate	25	12.5
2. Favorable with minor adjustments, economic or personal	71	35.5
3. Unfavorable but remediable by economic or other assistance	48	24.0
4. Unfavorable and not remediable, needing institutional care in convalescent homes	44	22.0
5. Acutely needing further hospital care —relapse after return from hospital	12	6.0
	200	100.0

Thus with only 12.5 per cent. in surroundings favorable and adequate for convalescence, the remaining 87.5 per cent. of these cases returned to homes which were unfit in varying degrees for their convalescence. With proper advice or assistance, conditions could have been remedied in about two-thirds of these (59.5 per cent. of the total number), while with the other third (28 per cent. of the total number) conditions were irremediable and the patients required institutional care in convalescent homes or still longer care in hospitals.

Charity Hospital

Considering the convalescent cases of each individual hospital as a group, those of Charity Hospital presented the following distinctive characteristics:

Cases with Home Environment	*Total Cases*	*Per Cent.*
Favorable and adequate	15	30.0
Favorable with adjustments	21	42.0
Unfavorable but remediable	6	12.0
Unfavorable and not remediable	6	12.0
Acutely needing further hospital care	2	4.0
	50	100.0

As permission was given to choose the patients from the complete files of those discharged there were by chance more pay or part-pay patients, and among these were people of intelligence and personal capability who had been able to adjust their homes to provide adequately for convalescence. This had sometimes been accomplished by pre-arrangement, before going to the hospital, with some competent friend of the family who possessed the special mental or moral force needed for the situation. (It was noticeable that this force

was as often absent in the more prosperous homes as in those of otherwise discouraging surroundings.) Practically no form of social service had been offered to this prosperous type of patient, but the patient's evident appreciation of the idea as a possibility was impressive.

The prevalent feeling among the 82 per cent. of operative cases among women was that they had had the benefit of wonderful surgery, but were no wiser than before the operation as to what had been the matter with them or what was to be done to prevent further difficulty. The "head doctors" or attending surgeons were described with awe, yet regret, as "too important to be bothered"; "he's so busy he can't listen"; "it seems he's not the kind of a man to give you much talk."

A gynecological case returned to her home without instruction from the hospital, and within two weeks had housecleaned her tenement, painted furniture, papered two rooms, and was doing the cooking under a sloping ceiling too low to allow her to stand upright at the stove. The doctor having said she was "all right," she did not understand how she felt worse than before the operation. Concluding it was all a failure, she had begun treating herself with Lydia Pinkham's remedy because the newspapers said it would help anyone who felt as she did and she didn't want to waste any more money on the hospital.

Another operative case returned weak and wondering why the old pain was just as bad, while all she "could get out of the nurses and doctors was that they had gotten what caused the trouble." Still another, in a wretched but pathetically neat tenement, lay abed, mystified at feeling worse than ever before, while the family questioned her, "What happened? Have we paid $86 for this?" The cost in money loomed larger than any visible return in health.

Of the women who were uninformed as to their condition only one had not asked to know. At seventy years she was tranquil and not inquisitive.

The men also had doubts. A neurasthenic, aggrieved at the little attention bestowed upon him at the hospital, had gone home to a combination of quack electrical treatments and doses of No. 99 at Doctor Simpson's Medical Institute. His protest was, "Why didn't the doctor say what *would* do me some good?"

Another came home to wretched lodgings from a long siege of lead-poisoning, pneumonia, and an operation for empyema. While he was explaining that the incision had been allowed to close too soon because the hospital was short of beds, the doctor who had sent him to Charity Hospital came to take him to St. Alexis, there being a vacant bed where

the surgeon who had operated first would open up the incision.

A man, whose money was low after seven weeks in the hospital, was traveling a distance of seven miles for dressings because he knew a doctor who would not charge much.

A sturdy Irishman with facial paralysis after a mastoid operation was embittering his days with thoughts of sueing the hospital, while his wife wailed, "Sure, they have destroyed him entirely. 'Twould draw tears from a stone."

The White Motor employees, who after leaving the hospital were cared for at the dispensary of their works, seemed well informed except in the case of one man. A dressing of his foot had not been changed for four days. Having been told that he was "all right now," he had taken this literally, until the pain and swelling led him to doubt. He had recently been burned out of his home, and as the only support of a wife, mother, and five children under twelve years, had gone on a ten-hour night shift to get the extra pay of $11.85 a day. He was slowly coming to the conclusion that his foot, by its delayed recovery, was costing more than the hospital bill.

Since hospital service dominates convalescence to such a degree that it has no present but only a past, these cases have indicated: (1) That more nursing care, if only for its educational value, and better night service, particularly for men, should be offered. (2) That more time should be given to instructing all types of patients as to their part in carrying on convalescence, returning to dispensaries or physicians, etc. (3) That after-care in the homes is often indispensable. (4) That there should be more real interpretation through Social Service of the problems of foreign-born patients, so that "Tony" would not have felt it possible to get out of bed and walk off without saying, "By your leave." (5) That the cash value of health should be explained to those patients who reluctantly offer their fees. With the help of Social Service every patient should be made proud to contribute his charity to the common good.

City Hospital

City Hospital presents the following showing:

Cases with Home Environment	*Total Cases*	*Per Cent.*
Favorable and adequate	5	7.0
Favorable with minor adjustments	19	26.8
Unfavorable but remediable	21	29.6
Unfavorable and not remediable	20	28.2
Acutely needing further hospital care	6	8.4
	71	100.0

The large portion of those having unfavorable and irremediable surroundings corroborated the superintendent's statement that almost half of their patients have no homes and must be kept in hospital until ready for work, the only alternative being the Warrensville Infirmary.

Even a superficial contact with the various types of lodgings, rooming-houses, and rooming hotels, with their forlorn attempts at light housekeeping, brings swift conviction that they can never offer a fair chance to convalescents. The atmosphere of isolation, the indifference as to what happens to the lodger after he pays for his room, the long flights of stairs to be reckoned with whenever a meal is needed—these, aside from the unwholesome living conditions, proclaim the lodging system as "fatiguingly futile" for convalescent use. The patients themselves evidently realize this fact and many did not return to their given address. Others had never lived at the given address, but had been known to the owner of the lodging house or to some of the lodgers. A few gave an impossible street number selected with evident care. The Salvation Army, the City Mission, a corner store, or a former saloon will sometimes be given as an address where nothing definite could be remembered of the patient. One man was found on the corner near the restaurant which he had given as his address and explained there was "generally someone round that corner who knew where he hung out." Such were the frail links to home and the greater reasons for convalescent care in institutions or at least for continued hospital supervision.

Another tremendous claim for convalescent supervision of the most far-reaching and efficient sort was made by the fact that many other patients came from *homes* which were totally unfit for convalescence or continued health, unfit for the minimum requirements of normal living—on the edge of the dump, in gullies thick set with smoke, in leaky shacks—the cracks stuffed with newspaper and the room reeking with kerosene fumes, in dark tenements, four or five of which would open on a court filled with the accumulated refuse and garbage of the winter, where the convalescent child was left to "play."

The hopeful note in many instances was the persistence of the family in keeping its tenement clean within in spite of the disheartening mess without.

In several such homes on Orange Avenue there was as keen an interest and sense of personal concern in the Survey of the Hospital Council as at a Chamber of Commerce meeting, thus bearing out the idea of Doctor Frederic Brush on convalescence that "health service should be offered where people live and work and play."

It is hard to prove which will finally claim the most patients, the influence of the hospital or that of the home on the edge of the dump beset by every health hazard and bereft of every help to sanitation, but it is only when Social Service shall present overwhelming evidence of the limitation of hospital skill before such handicaps that these entirely eradicable conditions will be swept away.

The surgeon, who has conscientiously given his intelligence and skill to renew life, should realize that the condition of the home, to which he is sending his patient, will play a vital part in the final success of his work. To have a mind to insist that dwellings and their surroundings should be fit for the minimum requirements of ordinary living would be to open up many possibilities in home convalescent care which, as yet are untried, and the importance of gain in the general health of the community and in health education, should not be overlooked.

Still other types bespeak the follow-up work of the hospital. The drug addict, returning to lodgings with little moral support; the child with chorea celebrating her home-coming with a "regular meal" of coffee, sausage and pie; the heart case who has spent most of his small life in hospitals and pleaded, "Oh, Muz, my business is always hospitals! Can't I stay home and get well?" the fourteen-year-old runaway with mumps whose pride had thus resented his being put in the "kids' ward" where his feet stuck out through the bed-bars; the child of five whose mother had never been able to find out from the hospital what its illness had been—these and many others proclaimed their necessity for further care without which a large part of the hospital's work goes for naught.

These cases present the following well-defined needs: (1) Increased institutional convalescent care; (2) Instruction of patient at discharge; (3) Social Service, to adapt the homes of patients for convalescence therein.

Lakeside Hospital

Lakeside Hospital showed:

Cases with Home Environment	*Total Cases*	*Per Cent.*
Favorable and adequate	4	7.0
Favorable with minor adjustments	21	36.8
Unfavorable but remediable	14	24.6
Unfavorable and not remediable	16	28.1
Acutely needing further hospital care	2	3.5
	57	100.0

The cases were offered with ample records and in the spirit of the fullest coöperation. Probably because of this

it was more noticeable that the instructions to patients by the doctor were most often "none in particular" or "return to dispensary."

The "none in particular" probably indicated that to the doctor the case did not stand out in his mind as needing any instructions other than those of routine convalescent care after a pneumonia, a laparotomy, or whatever else the disease or operation might be. The patient, however, assuming this role for the first time, finds everything strange about being "a pneumonia" and things stranger still as "a laparotomy." He is full of interest in himself. He wants to make a success of getting well and there are many questions to which he wants to know the answers. He is hoping there will be time for one of the doctors to have a talk with him about it all before he leaves the hospital. But often the last day comes unexpectedly, his bed being needed for a more urgent case, and he finds himself at home several miles from the hospitals, wondering why he managed to find out so little of what the hospital knew so well. When special instruction had been given the patient on discharge, the effect was almost magical. To have been instructed to carry on what the nurses have begun, to have responsibility for one's own treatment, gave a new zest and importance to convalescence. Particularly was this noticeable in patients who were returned to the dispensary for the treatment of syphilis. Alert and intelligent, they were too much in earnest to be self-conscious and presented convincing evidence of wise and inspired teaching. With the exception of these cases there was little evidence of hospital Social Service other than visiting nursing, among the patients seen from Lakeside.

The ambulance experiences of many held a large share in their convalescent thoughts. The negro who, after an automobile accident, regained consciousness in "Hogan's dead wagon," "don't never expect to get over that wake up." He thought he was being taken to the undertaker's establishment as dead. Often neighbors have "chipped in" to collect the money for an invalid carriage so that the police emergency need not be called, and with a naive idea of gradual descent to the mundane, some announced that in leaving the hospital, they took a taxi to the nearest car-line and transferred to the trolley for the rest of the way home.

Another impression noted among the women was remembering the fatigue of that first complete dressing to leave the hospital. Apparently this was often done without assistance as the nurses had other duties, and the friends of the patient were not allowed to come to the ward. (This was also noted in patients from other hospitals. An old negro woman with an aortic aneurism was being sent home from the City

Hospital on the ambulance stretcher. She described the fatigue of preparation, and added, "The head lady nurse told them, 'Don't bother if it is a hospital gown—let her go while the spirit is in her.' I sure was grateful. She certainly had wisdom, that lady nurse.")

Two other shadows of convalescence were: (1) the long uncertainty and final disappointment over the amount of the hospital bill, and (2) the fact that the patients sometimes came away resentful because they had been the "interesting case" used to teach others. They felt that they were being detained in hospital for this purpose.

These may seem minor details in the immense and the complex scheme of administration which the hospital must embrace, but with the sensitive imagination of one half-sick—"behold, a little cloud ariseth" and the whole of his convalescent sky is darkened.

The amount of the bill could be approximately decided before the day of discharge and preferably nearer the day of admission so that his "indeterminate sentence" might be cleared up. If the patient has not been able to pay, it is perhaps not the happiest sort of envoi to have "the last one you see at the front door saying, 'I hope you will be able to work soon and pay your bill.' " Social service at the front door might perhaps have given the deft touch to incentive which would have brought the patient to say as much *for himself*, with gratitude and courage.

Again, in the matter of the resentful "interesting case," the house physician, who is a vital influence for energizing convalescence, could in a few words, with perhaps a touch of camaraderie, present the idea of an impersonal yet chivalrous appeal for humanity, and the patient might become at once the "interested case," ready and a little grateful to contribute to the advancement of clinical medicine and scientific research.

The foreign-born patients who had had bedside lessons in English in the hospital, and who had heard their own language understood and translated by a sympathetic interpreter, beamed with appreciation at the remembrance. This happy coöperation with the Board of Education can be developed so that the often empty hours of convalescence will be brimming with interest.

Almost without exception the Lakeside cases showed that the completion of the hospital's work can only be accomplished outside of the hospital and through the extension service of social work.

Whether this is rendered in the guise of institutional convalescent care or of home service, there is every indication that the expense would be less than a protracted stay in the

hospital. The patients are quick to testify that after the first urgent need of acute illness the hospital atmosphere is not helpful. Its ceaseless movement is too intense and vivid for rest.

To the patient with a problem waiting at home, institutional convalescence, however luxurious, has little charm—"For what good should I go away. The worry for the kids would go with me," said a mother amid a clutter of babies, washtubs and general disorder. "This is the best for me here." Her peace of mind arose triumphant over the scene of distraction, for her problem was within her grasp.

The unanimous opinion among such convalescents was that any help in household administration would be welcomed.

Mt. Sinai Hospital

The cases referred from Mt. Sinai came to the investigator slowly and were possibly a more or less expurgated edition, as there seemed some apprehension lest the hospital's social work should be duplicated. Maternity cases were excluded. For this reason the number of cases for consideration was smaller than from the other hospitals, only thirty-five being offered. Of these thirteen were not seen, leaving the following percentage compiled on a basis of the twenty-two cases seen:

Cases with Home Environment	*Total Cases*	*Per Cent.*
Favorable and adequate	1	4.5
Favorable with minor adjustments	10	45.5
Unfavorable but remediable	7	31.8
Unfavorable and not remediable	2	9.1
Acutely needing further hospital care	2	9.1
	22	100.0

One characteristic of this group as a whole was that the patients seemed to have achieved a definite idea of the hospital's plan for them and their repeated trips to the dispensary were playing an important part in their convalescence. The majority were looking upon the situation as a business proposition without imagination. The evident system and efficient working of the ward routine had impressed them and they were ready to do what was required. They seemed less susceptible to untoward surroundings at home because of the definite goal toward which they were working. Possibly this unanimity may have been more evident because of the smaller number, but it was too marked to escape notice.

The Collected Groups

Among the patients of all four groups were some who had been treated at two or more different hospitals for the

same or different causes—the patient not having mentioned this in giving her medical history at the hospital because she did not know, or "was not sure how to tell it," and thought "the next doctor would find out." In large families the hospital affiliation was widespread, several hospitals having been used by three or four members, and experience meetings, when all talked at once, brought out a variety of hospital lights and shades. This suggested the possibility of extending the scope of the Social Service Clearing House to include on its registry cards a note of any dispensary or hospital care which the patient had received—the technical details to be furnished by each medical agency as the occasion arose, as the patient is often unable to give an accurate account of past illness or surgical operations.

The very prevalent protest of the women patients against being kept in ignorance of the nature of their surgical operations deserves a word. The patient wants to know how she stands physically, even if she faces a serious handicap, and she can the better adjust herself to meet it if informed. The hospital service which shirks, evades, or refuses this after-treatment so necessary to the peace of mind and progress of convalescence has put the hardest part of the operation and its results on the patient, and has missed its best chance of rehabilitation.

Why bother at all if the game is not worth the candle—if the work is not to be carried through to completion and the seal set upon restored health and higher spirit? If the patient is well enough to worry about her condition, she is well enough to know what she has to worry about. She will then be more willing to put aside imaginings and prepare to recuperate in earnest.

Those who have had the fertile experience of a perfect convalescence have realized that there is much to be learned from contact with pain and weakness and returning strength. The convalescent patient should be helped to find these values, to lay aside a few worries and to take on a few new aspirations for the future. Inspiriting companionship may often be found in one's nearest neighbor with a wholesome philosophy to share.

In becoming acquainted with the convalescent in his own home we must let him state the difficulty of convalescence as he sees it, along with his own idea of rehabilitation before blocking the way with too many suggestions.

Often the patient must either resign himself to a reduced "health bank account," or remonstrate at untoward conditions; again, the uncertainty as to what his depleted strength is equal to, makes any definite undertaking precarious. This is no time for platitudes in words or actions. No

"return to dispensary" slip will fill the need. Advice to "rest and take it easy" will not answer. Reinstatement into the type of life to which the patient is equal must be wisely planned, and the very present helps of community life pressed into service, so that the thrill of ambition, the impetus to new life which rightfully belong to convalescence may not be entirely lost.

Summary

Visits to two hundred patients discharged from the wards of Cleveland hospitals showed eighty-seven and one-half per cent. in home environment unfavorable for convalescence.

In two-thirds of these homes, conditions were remediable, if adequate and adaptable Social Service could be supplied. This service is almost entirely lacking at present.

In one-third, conditions were not remediable, and care in a convalescent home was needed. With present resources it is impossible to meet this need. The hospital faces a choice of evils—it must either retain the patient, using a bed needed for a case of acute illness, or return the patient to a home unfitted to complete his cure.

Possible means by which the hospital may assist convalescence in the home:

1. Treatment and instruction in hospital towards securing the patient's confidence and coöperation—the instruction to include understanding the present illness and means of preventing recurrence.
2. Making with the patient a definite plan for his after-care and reinstatement into active life, and enlisting his best effort to carry out such a plan.
3. The function of the Social Service Clearing House might be broadened so as to include a record of dispensary and hospital treatment received by the patient, with names of institutions and dates. This record could be used by medical agencies concerned as occasion requires.
4. The function and value of the Convalescent Home, when suitable and available, should be explained to the patient as an opportunity.
5. Social Service (if a Convalescent Home is not available or desirable) should create the same essential values of convalescence in the patient's own home.
6. Teaching the patient while most receptive to suggestions—because of recent contact with the hospital technic of sanitation—how he may further the hospital's work to insure permanent good health. This would include the use of dispensary and other hospital resources, as well as of the family physician.

A patient thus successsfully involved becomes a valuable field agent who will set forth the work of the hospital in terms of appreciation which his neighborhood will not fail to understand. A period of stay in a hospital for acute diseases represents a part, often the most expensive part, of the investment, but the subsequent period of convalescence, either at home or in an institution, requires a certain investment of time, skill, and money, also. Unless this subsidiary, but important, investment in convalescence is made, the value of the whole investment may be nil. It is difficult to put such an argument in financial terms of actual cases, but it should not be difficult to appreciate the tragedy and the waste of insufficient convalescence, and to strike the imagination of citizens of Cleveland who have the means to support a program and develop an institution which shall be worthy of their city.

VI—Chronic Illness and Its Care

Through the courtesy of the Visiting Nurse Association and the Division of Health, a list was secured by the Survey of all patients who were treated in their homes during the month of November, 1919, by the nurses of these organizations, who were regarded as chronic, incurable or convalescent cases. A list of 2,078 persons was furnished. In the absence of an opportunity to make intimate medical study of each case, it was not possible to draw a sharp line between the chronic and the convalescent, but only about ten per cent. were believed to be of the convalescent class. The remaining cases, some 1,800 in number, were chiefly people suffering from chronic disorders, living at home, but needing more or less regular nursing or medical attention.

The problem of chronic illness must be clearly distinguished from that of convalescence. The convalescent patient is in the process of restoration to health. If institutional care is needed, the period of stay in a convalescent home is as a rule comparatively short. Two to four weeks after the usual acute illness or surgical operation is generally sufficient. The medical attention required is of quite a different nature from that needed in a case of chronic illness, where a definite disease process exists or there is a definite disturbance of bodily function which ought to receive close medical supervision and systematic treatment. Another important practical difference arises from the fact that the chronic case is usually a man or woman in middle or late life. To provide convalescent care for children is an important problem, whereas chronic illness among young persons is comparatively rare. Furthermore, cases of chronic disease which cannot be cared for at home are largely among the

poor or those of very limited means, and with very unsatisfactory home conditions.

Considering all these points, it may be said that a very large proportion of the cases of chronic illness which require institutional care should be the responsibility of the city, rather than of a private agency.

Eloquent testimony to the lack of present provisions in Cleveland for the chronic case is derived from many of the leading hospitals of the city, in which the Survey found large numbers of patients who had been in the hospitals a long period of time. On the two days, December 3, 1919, and January 15, 1920, on which a census was taken in the institutions of the Cleveland Hospital Council, a tabulation was made of the length of time the patients had been in the hospitals. For this tabulation, Warrensville Tuberculosis Sanatorium, Rainbow Hospital, St. Ann's Maternity Hospital, and Cleveland Maternity Hospital were omitted. The first two of these make special provision for long term cases and cannot be compared with a general hospital, while the latter two accept maternity cases only, and for this reason should be omitted.

On December 3rd, there were 2,016 hospital patients in the group considered, and of these 243, or 12.5 per cent., had been in the hospital for over two months. On January 15th the number of cases in these hospitals was 2,029, and the number who had been in the hospital over two months was 286, giving a proportion of 14.1 per cent.

It is not necessarily true that a patient who is in a hospital over sixty days is a chronic case, because some patients with obscure diseases or who are slowly recovering from illness or operation, may properly remain in a hospital for several months, but the great bulk of these long-term patients are cases of chronic illness. Some of these patients are private cases and are paying their way, but the great majority do not pay even the cost of their care. Aside from the matter of payment, it is a serious waste of service in a hospital designed for acute diseases to have to care for chronic patients. It must also be remembered that the cost of giving adequate care for chronic patients in a suitable institution is only from one-half to two-thirds of the average cost of maintenance in a hospital for acute diseases.

From the figures secured in the hospitals and presented in the table, it is probable that 250 chronic cases are usually in Cleveland hospitals, in beds which are designed for acute cases, and for which there is great demand.

When it is recognized that the cost of maintaining a chronic case in the bed of an acute hospital for a year is almost equivalent at present to the salary of a social worker during the year, and that a social worker would be able to

work out the problems of a large number of such chronic patients so they could be cared for at home, it is seen that the present hospital policy is "penny wise and pound foolish." From the standpoint of individual hospitals, this statement may be controverted, since the hospital would have to maintain the bed anyway, and add the salary of the social worker in addition. But from the standpoint of the community, and of the Welfare Federation as representing the community, it would be an actual saving to introduce a social worker and let the bed occupied by one or two chronic cases in the course of a year be occupied by twenty or more acute cases.

An enormous amount of physical distress and suffering and of habitual living at fifty per cent. efficiency, exists because of the failure to study out conditions of a chronic nature, to arrive at a definite medical analysis of the character of the disorder, and to outline a plan of treatment, hygiene and living conditions which will restore the patient to health, or will maintain him at the highest physical grade possible for him. This class of ambulatory chronic patients represents a very large number, of which no census anywhere has yet been made.

VII—A Community Program for Convalescent Care

An institution is not the ideal place for convalescence from disease. The home, when conditions are satisfactory, is the ideal place. The possibilities of home convalescence are only beginning to be dealt with. In a preceding chapter, home convalescence was touched upon in relation to the hospitals, with reference to planning the after-care for the patient, instructing him or his family properly at the time of discharge, using the dispensary to provide medical after-care, and social service. The last-named function served either by the social service department of the hospital, or by coöperating agencies such as the Visiting Nurse Association or the Associated Charities, is a necessity. It should further be borne in mind that the aid of social service is not called for merely in homes of poverty. Much work needs to be done in middle class homes by the Visiting Nurse Association or by a representative of the social service department to give the necessary instruction and friendly advice about the details of home management, diet, hygiene, etc., without which the family will usually not carry out the necessary routine outlined by the physician. Coöperation with the employer or the industrial physician is not infrequently of great importance. The vast number of medical cases which are cared for in their homes by private physicians, and which convalesce at home, need such advice no less than do hospital cases.

In a word, the broad problem of convalescence involves private medical practice, the hospital, the dispensary, the Visiting Nurse Association, and social service in many branches. Many individuals and many agencies must share in creating better opportunities for both home and institutional convalescence than now exist in Cleveland. An essential element to any real advance is an adequately maintained convalescent institution. Such an institution does much more than provide care for the particular patients who can be admitted to it. It would serve to stimulate medical study of convalescence, now a field much neglected, and would promote, throughout the community, interest in the problem of convalescence, which will add to the efficiency of all kinds of medical care in hospitals, dispensaries and in the home.

For an authoritative picture of the need for convalescent care in a community such as Cleveland, and a program for a central representative institution for convalescents, the Survey turned to Dr. Frederic Brush, Medical Director of the Burke Foundation at White Plains, New York, the leading institution in the United States for the efficient treatment and scientific study of convalescence. The following memorandum was prepared by Doctor Brush:

Convalescent Care

For an American City of One Million Population.

The Need

There is a convalescent period in illness, with fairly distinct medical and social borders, and now recognized as a particularly favorable time for skilled aid in rehabilitation. The patient's home is the desired, the cheapest, and best place for most convalescence, but institutional convalescence is needed for a certain percentage, in large cities.

Such an institution in its modern conception functions widely, beyond mere recuperative rest,—in prevention, education, refinement, and Americanization, occupational adjustment, vocational direction, encouragement, and all-round set-up for better living. It complements home care, and notably completes and fortifies social service. It shortens the hospital stay, with large increase of product, and with inspiration to the staff. It saves money directly (convalescent cost being but little over one-half hospital cost per day,) and makes large long-term returns to the community in bettered personnel.

Numbers Needing Country Convalescence

Various estimates have been attempted based upon the number of hospital patients in the community, plus a small percentage from dispensaries, private physicians, employers,

etc. These may be summarized into an ideal requirement of convalescent beds for ten per cent. of all hospital patients—varying greatly, of course, depending upon each city's conditions. To this should be added about one-fifth for dispensaries and other sources (as at present organized; but this ratio should be increased). Thus a city discharging 100,000 hospital patients yearly should provide institutional care for 12,000 convalescents.

Number of Beds and Apportionment of Patients

Assuming that the city in question presents the better living conditions, we may well take 5,000 hospital patients, plus 1,000 from other sources, as a planning basis. About twenty-one days proves to be the average stay in convalescent homes. The requirement for the 6,000 patients is accordingly 350 beds.

We may base an estimate upon the long and abundant experiences in our greater cities, and apportion them as follows:

1. The Main Institution, for adults—120 beds; men and women—ages, from fifteenth birthday upwards to old age, including 15 per cent. plus of heart disease, with standard surgical (with dressings), preventive and holding (chronic handicapped) convalescence.

2. Children's Home—100 beds, taking girls from 6 to 15 and boys from 6 to 10 years, receiving surgical dressing and orthopedic cases, and heart disease up to 20 per cent. of total, along with the standard lines as above outlined.

3. Boys' place—30 beds, ages 10 to 15; disease classification as in the Children's Home (very important, but not to be large).

4. Mothers with infants and young children—30 adult beds, averaging 60 patients.

5. Special Heart Institution—40 beds, for the seriously ill, but probably restorable, giving bed care at first, etc. Age and sex as in Number 2.

The Plants

New or expensive buildings are not essential. An old mansion, a large farmhouse with its many outbuildings, or a disused hotel adapt readily. Tents serve well at times; extensions are happily made; much equipment may be improvised. Five acres of land is minimum, the larger areas giving considerable advantages. These Homes might be conducted upon one large plot of 100 acres if the topography, etc., gave essential separation of patient's activities. A location well within 20 miles of the city's center should be chosen if possible.

Costs

A per day capita cost of $1.75 may be expected, even under post-war conditions, giving $225,000.00 as minimum yearly operating expense for the 350 beds, as approximate. This includes transportation, and maintenance of a City Admission Office.

Selection of Patients, Follow-up, Etc.

Careful selection of patients by one City Officer, given authority and support, is of first importance. This officer may be on part time only. The necessary follow-up, including occupational and vocational direction, may be fairly well done by the city organization which sends patients, and the back-to-health-and-to-normal-life cycle is thus completed.

Convalescent home planning, organization, and conduct are becoming fairly well standardized, with detailed information readily available.

In most cities the convalescent problem, so far as it has been dealt with, has been taken up by bits and snatches. Here a group of kindly people have taken a large dwelling house and made it into a "convalescent home" for some twenty-five men; another committee of the charitable maintain a building donated by one of their number, in which sickly and tired mothers may recuperate after illness or operation; still another group has under its wing a small institution for children; and yet another a small "preventorium" for the pre-tuberculous child.

One of the great lessons which the Burke Foundation has taught is the greater efficiency gained through the use of a large institution instead of a number of little ones. The small, independently managed convalescent home, accepting ten to fifty patients, secures with difficulty expert medical service of physicians who are particularly interested in the convalescent problem and scientific study of convalescent cases; it cannot possibly provide elaborate therapeutic equipment or a staff of special workers and teachers. In the large institution, therapeutic equipment, personnel and continuous service of a medical staff whose members are selected especially because they are interested in convalescence are all possible within reasonable limits of expense.

In a letter transmitting his outline, Doctor Brush remarks: "It may be well to bring to the attention of those becoming interested in this branch some of the important points of this proposal; that preventive tuberculosis comes in under numbers 1, 2, and 3; convalescent orthopedics, bone diseases, etc., likewise in these three places; that cardiac children well enough for reconstructive treatment enter under numbers 2 and 3; that adolescents (the group most successfully dealt

with and most neglected in convalescence) are especially well planned for. * * *

"Perhaps the most characteristic and radical part of my conclusions is the recommendation, based upon definite experience, for the care of many different classes and ages, etc., in one Institution (see numbers 1 and 2)."

The recommendation to be made regarding the convalescent problem of Cleveland is that it be dealt with not by bits and snatches, but by one central and representative group of persons who will study the whole problem and, with a long range program in mind, will take each practical step as funds are made available. So far as institutions are concerned, there should be one, rather than many, or rather, as Doctor Brush's outline indicates, a group of related institutions managed as one.

At present Cleveland has:

Rainbow Hospital, with 85 beds, taking children between 2½ and 14 years of age, mostly orthopedic cases.

The Children's Fresh Air Camp, with 60 beds, receiving weak, anaemic children and some convalescent mothers.

Holy Cross House, with a capacity of 50 beds, receiving crippled and invalid children (chronic rather than convalescent cases).

For adults a small number of chronic cases are held at City Hospital, but no convalescent cases are supposed to be there. At Warrensville Infirmary are numbers of chronic and incurable cases, but little provision for convalescents. In a few of the private institutions of the proprietary type convalescent cases are treated, but the number of beds available for such is very small.

Taken as a whole, institutional provision for convalescents in Cleveland is practically confined to children, and even for them is limited to certain types of cases. The main resources throughout the year are Rainbow Hospital, and, in summer time, the Children's Fresh Air Camp.

The major need is that some central and representative group should assume the responsibility of developing convalescent provisions which will be adequate for the needs of the city. It is recommended that the trustees of Rainbow Hospital either assume this responsibility, or at least act as the agent through which some larger group might ultimately be organized. Rainbow Hospital now provides an excellent service to a limited range of patients, but appears to furnish a basis upon which much more comprehensive and satisfactory development might be made.

With this in view, it is desirable that Rainbow Hospital should enlarge immediately the scope of its work. It should have no exclusive affiliation with any one hospital with respect to its medical staff or with respect to the reception of

patients. It should aim to develop a staff which is especially interested in the scientific medical study of convalescence. It should at once undertake to receive a considerable group of cardiac cases from the children's services of the Cleveland hospitals, as well as convalescent orthopedic and surgical cases. It should institute studies of the convalescent problem in Cleveland, supplementing those made by the Survey, and through its members or representatives the Board should study notable developments in other cities, particularly the Burke Foundation, as a basis for the formulation of a program and of the definite steps which should be taken year by year towards its execution. Publication of these studies and report of the case work with convalescents of various types are important phases of such a program, and are essential to the growth of appreciation of the convalescent problem by the medical profession and the public. Coöperative affiliation with related agencies, such as some of those above mentioned, would be desirable in the formulation and execution of any such program.

Provision of a convalescent institution for adults should be made as soon as possible, as a part of this plan, either by Rainbow Hospital or by a group of persons organized in coöperation therewith.

The outline presented by Doctor Brush gives a program which for financial reasons alone cannot be realized in a day, yet nothing less than this should be accepted as worthy of a progressive city.

The cost of maintenance of a convalescent institution is about half that of a hospital receiving the same number of persons with acute diseases. A convalescent home is an institution which no city can afford to omit in providing for its sick. Its absence means burdens upon the hospitals, which involve undue expense, and burdens upon the community which are less easily traced, but which are no less real, being a financial drain upon the charitable public and a definite loss to wage earners and to employing interests.

When serious illness befalls, the care of the patient in home or hospitals requires, as it were, an investment on the part of the community in order that the sick man shall be restored to health and living efficiency. From the financial as well as from the humanitarian standpoint it is to the community's interest that this restoration shall be complete and shall be as prompt as possible.

VIII—Care of Convalescents (Two Years After)

The Harkness estate, covering two hundred and ten acres at the mouth of the Chagrin River in Willowboughy, together with a sum of money which will cover the cost of remodeling the house on that site, has been donated to Lakeside

Hospital and accepted by the Board of Trustees, to be used as a Convalescent Hospital. A committee has been appointed to consider the methods of handling, and the matter has been taken up with Rainbow Hospital, Children's Fresh Air Camp and other institutions which should use it as a convalescent home, and the committee now has under consideration plans for remodeling and reorganization. The Welfare Federation has been asked for funds to help support this project, but it seemed advisable to let the matter wait for another year. When this project can go forward it may well prove the first step in dealing with the convalescent problem in Cleveland as a unit and as suggested by the Survey.

IX—Summary

1. The problem of chronic illness must be clearly distinguished from that of convalescence.

2. The proportion of cases staying for the longer periods is higher than it should be in hospitals designed primarily for acute stages of disease. The reason lies largely in the lack of dispensaries and of facilities for convalescents and chronic patients in Cleveland.

3. Taken as a whole, institutional provision for convalescents in Cleveland is practically confined to children, and even for them is limited to certain types of cases.

4. When it is found that six per cent. of 200 patients recently discharged from four of the leading hospitals needed continued hospital care—in other words, had relapsed since their discharge; when it is found that 12.5 per cent. in addition were living under such home conditions that satisfactory convalescence was unlikely, it is apparent that expensive hospital service is easily wasted because of the lack of a little further service which would have made all the preceding work permanently worth while.

5. Whether this is rendered in the guise of institutional convalescent care or of home service, there is every indication that the expense would be less than a protracted stay in the hospital. The patients are quick to testify that after the first urgent need of acute illness the hospital atmosphere is not helpful. Its ceaseless movement is too intense and vivid for rest.

6. Almost without exception the Lakeside cases showed that the completion of the hospital's work can only be accomplished outside of the hospital and through the extension service of social work.

7. It is only when Social Service shall present overwhelming evidence of the limitation of hospital skill before such handicaps that these entirely eradicable conditions will be swept away.

8. As the facts in the section on convalescence bring out, the need for financial aid during after-care is approxi-

mately much less frequent than the need for explanation and advice, given in terms of the patient's degree of education and understanding, and of the practical conditions of his environment.

9. The foreign-born patients who had had bedside lessons in English in the hospital and who had heard their own language understood and translated by a sympathetic interpreter, beamed with appreciation at the remembrance. This happy coöperation with the Board of Education can be developed so that the often empty hours of convalescence will be brimming with interest.

10. The information gathered in Cleveland agrees entirely with the studies and estimates of Dr. Frederic Brush, the leading national authority on convalescent care, that the medical job is not done at the time the patient leaves the hospital.

11. Unless this subsidiary but important investment in convalescence is made, the value of the whole investment may be nil.

12. An essential element to any real advance, is an adequately maintained convalescent institution. Such an institution does much more than provide care for the particular patients who can be admitted to it. It would serve to stimulate medical study of convalescence, now a field much neglected, and would promote throughout the community interest in the problem of convalescence which will add to the efficiency of all kinds of medical care in hospitals, dispensaries and in the home.

13. The cost of maintenance of a convalescent institution is about half that of a hospital receiving the same number of persons with acute diseases. A convalescent home is an institution which no city can afford to omit in providing for its sick. Its absence means burdens upon the hospitals, which involve undue expense, and burdens upon the community which are less easily traced, but which are no less real, being a financial drain upon the charitable public and a definite loss to wage earners and to employing interests.

14. The care of convalescents is a much larger problem than that of a hospital or institution for convalescents.

15. The recommendation to be made regarding the convalescent problem of Cleveland is that it be dealt with not by bits and snatches, but by one central and representative group of persons who will study the whole problem and, with a long-range program in mind, will take each practical step as funds are made available. So far as institutions are concerned, there should be one, rather than many, or rather, as Doctor Brush's outline indicates, a group of related institutions managed as one.

HOUSE OF REST—RUSSIA

1926

PLATE 71

The Houses of Rest divide roughly into three medical classes:

I—Full medical treatment given.
II—Regulated diet and routine.
III—Vacation resort only.

Class I is maintained by the government.
Classes II and III are practically all maintained by different unions for their members.

VI

Houses of Rest in Russia*

I—Introduction

A review of the available literature on Convalescence had led the writer to conclude that it was and is the French who have most consistently emphasized the necessity for giving adequate consideration to the mental aspects of convalescence.

It was therefore a distinct even if unwarranted surprise, to receive in January, 1923, through Dr. Frederic Brush and Dr. Haven Emerson, two reports upon "Houses of Rest," from the American Medical Aid for Russia, and it is with full acknowledgment of their source that these two reports are included in the present series of papers on Convalescence.

The first of these reports, entitled "Principles of Organization of the Regimen at the Houses of Rest," is by Madame Rykov, wife of him, who bearing the formidable titles of President of the Union Council of People's Commissaries and chairman of the Russian Socialist Federal Soviet Republican Cabinet, is said today to be the mainstay of the Bolshevik regime.

The second paper, entitled "Report of Collegium of the City Health Department at the Presidium of the Moscow Soviet on Houses of Rest," is apparently a routine committee report.

Both papers have suffered somewhat in translation, a fact which seemed to obligate the writer to make a few minor alterations in the context, in the interest of clearer and more idiomatic English. It is believed, however, that the original flavor persists sufficiently unmodified to leave the reader in no doubt that in both of these Russian papers, the problem of Convalescence is viewed from an altruistic angle which, if sensed, is too rarely voiced in English.

Out of turbulent Russia has come a logical conception of the extent to which, during routine convalescence, the outlook of even

* Bryant: Boston Med. and Surg. Jour., 1924, cxci, 1114.

the humblest of daily workers may be influenced for good by an intelligent and practical application of known principles of mental occupation, an application which may well be expected to lead to an awakening of the cultural and spiritual values dormant within the average individual worker. Furthermore, it is of importance to realize that such a mental awakening of the patient may be initiated within the normal limits of that unavoidable period of convalescence which to so many recovering patients has come to mean merely a series of days of enforced and chafing idleness, interposed by the physician between the termination of the obvious stage of acute illness, and the day of final discharge of the patient from medical supervision.

In a word, it is possible to cause the average patient to gain something of permanent value both from the mental and from the economic points of view, during what otherwise is a period of total loss of earning power. It is a demonstrable fact that a patient will remain contentedly under observation throughout a reasonable convalescence, if such a patient comes to believe that, while otherwise incapacitated in hospital, he is actually gaining mentally something that will better fit him to command for himself and for his family, advancement, success, and satisfaction in life, when at last he plunges again into the maelstrom which whirls ever faster without the protecting hospital portals.

A bit Utopian? Perhaps, but since when is it become a crime to hitch one's wagon to a star? Low aim is crime. In medicine, low aim breeds the human leeches who fatten upon and bleed the patient whom the physician by chance has saved from death, yet has failed to guide past serious illness through supervening convalescence into a completed recovery which will express itself not only in renewed economic independence, but in a surplus measure of physical vigor and mental joy in living unattainable without full restoration of mental and physical health.

"To the physician belongs the period of convalescence no less than the period of acute disease." (Vidard-Dupin, 1844.)

"Convalescence is as much a state of mind as of body." (Cleveland Hospital and Health Survey, 1920.)

"The reason why so many invalids remain such, or so many convalescents become invalids, is because the medical adviser fails to complete his work, to appreciate the full significance of his duties, to

apply his abilities to the perfecting of his measures—in short to fill in the niche he had modeled for himself." (Taylor, 1905.)

II—Principles of Organization of the Regimen at the Houses of Rest

The fundamental problem is the accumulation of new working energy, and the refreshing of the organism in general, the nervous system in particular, by a hygienic regimen reinforced by nutrition and, what is of course quite essential, new impressions. The most oppressive factor for the nervous system is monotony, and the most refreshing is novelty and variety. It would not be exaggeration to say that four hours of monotonous work is more wearing on the nervous system than eight hours of varied work. The majority of workers are occupied in monotonous, mechanical and often stupefying work, and the House of Rest should, on the contrary, refresh the organism by new experiences of an opposite character. Of course, it cannot be considered good to have a kaleidoscopic diversity and change of impressions, or of distractions; such change, in turn, is wearing, and therefore harmful.

Rest and refreshment of the mind are best obtained as follows: If the laborer's whole life be spent amidst heavy sharp questions of daily hate, giving rise to irritation and provoking reactive effort of the nervous system, as a general shadow not only of the environment but also of the work, then, for purposes of rest, it is necessary not only to change the environment (which is accomplished by going to the House of Rest), not only to stop the oppressive monotonous work, but to give a new direction to the mind.

In this connection, it is extremely important that this rest should not be a passive time-spending. The rest must be made active; the person's active attention must receive a proper supply of new, fresh, interesting material for internal consideration, and all this material must result in some sort of raising of the person's culture.

We cannot here discuss the assimilation by the resting person of some definite program. We must not confine ourselves to introducing hygienic rules or habits. The end of the first month of rest should find the worker passing into the next month with a higher intellectual atmosphere; and the entire internal organization of the House of Rest should be adapted to this.

The problem outlined is solved by sufficiently simple means. The Houses of Rest are outside the cities and, by themselves, constitute a very rich material for the resting person's active attention, if that attention be ably concen-

trated. For the majority of city workers, a completely strange life of nature surrounding the House of Rest will open an inexhaustable spring.

The first object before the eyes is a tree, whole or cut, which the passive look will pass by. Stop the person's attention for a half-hour's inspection, let him read in the concentric circles of the tree's section, its age, explain its biography, its relation to the sun, to the wind, to the soil, its life in day-time, its work at night-time, its means of nutrition, etc., and you will fill the mind and attention of the patient for many hours with excellent material, refreshing and remembered for a long time. Prepare for this the primitive material, a few booklets, a section of a tree, etc., and you will have everything necessary. The grass around the house, its purpose, history, utility, its role for insects, etc., is rich material for analysis for the phenomena of nature (anabiosis). Again, take the sky over the earth, and you will give dozens of wonderful evenings of rest to those living there; on any wide field make a diagram of the stars in the sky, indicating the points of the compass, and locate the Pole Star, the Great Bear, Venus, etc. Do this in the same way as in botany—by planting them there—and thus you will get wonderful cultural value, since up to complete uncovering of its contents, everything is done without special difficulty; here, two or three booklets will be needed. And even in the very preparation of the work of the star-map piece of land, the resting persons themselves will persistently set to work.

No less strange to the working masses is esthetics. Here, too, at the Houses of Rest is the time to awaken their active attention, time to pass over from passive reception to active esthetic experience, to bring closer to the field of consciousness the unconsciously arising emotions of music, painting, and sculpture. Ask a pianist to do the "Ballad of Grieg," or else Mussorsky, and announce to the audience only the title and author. And, after the presentation, ask each one separately what in his opinion was in the author's mind when he composed the piece. Remember these answers and ask the pianist to repeat the performance. Whether the audience is or is not able to understand it as you and I makes no difference, but it is important that they should pay active attention to the piece, and try to read something into it; that means that you have set them on the road to learning the meaning of sounds, that you have led them into the world of musical analysis. And, of course, this is a definite and correct way to the musical training of the masses. If you further give historical information on this or that thing in music, or if simply the pianist shows or tells the audience

that the Ballad of Grieg to him personally illustrates this or that heroic theme, then the attention is fixed, the hearer is given healthy and interesting food for thought, and the goal is reached.

The same way with a number of other things, more or less simple. Place on the table an album of Lavitan, or Michael Angelo, or views of Naples, Rome, etc., and let there be with that album or hanging on the wall copies of Gollandetz, and let some thoughtful person from those who are resting there, or some one of us who has been in Italy or France, come forth; then there is already a special practical artistic conversation, which is new food for the intellect. There is no need to take up too much time with this, but all this material will be of service, and passive wandering in rooms and alleys should, at the Houses of Rest, become a thing of the past, thus giving to physical labor an intellectual atmosphere: concerted life of nature, its chemistry, physics, biology, on live material, esthetics, hygiene, history (of a given place), concrete, living, etc.

For people whose work is intellectual or in offices, there should, on the contrary, be physical activity, especially physical work in the garden, in the fields, etc., where the intellectual can strengthen his weak muscles through practical exercise. Such are the principles which open up a wide prospect of development.

There should be at the disposal of the Houses of Rest certain prepared themes,—on the knowledge of nature, esthetics, history, etc. In a word, there should be available the material for live practical work in these directions, and living specialists should be systematically made use of as intellectuals to add to the cultural resources of the House.

III—Report of the Collegium of the City Health Department at the Presidium of the Moscow Soviet on Houses of Rest

1. The Health Department, for purposes of the health of the population of Moscow, has founded a number of health sanitariums for sick people. But, in addition to patients with a definite defect in their organisms, an immense number of laborers need to improve their health by means of rest, change of environment, improved diet, being in the fresh air, etc. Therefore, under the auspices of a department whose primary problem is preserving the laborers' health, there should be founded institutions which satisfy the above mentioned demands. Such institutions are the Houses of Rest.

2. According to the Labor Code, every laborer has the right to a two-weeks' vacation. In order that, in these two

weeks, the worker should not merely rest, but also improve his health, in order that in these two weeks he may be set up in such conditions as that rest would indicate to him, in such surroundings as a correct healthy life should run to avoid sickness, in order that the laborer be shown the correct arrangement of the day, in order for him to get hygienic habits, and information on physical culture, and steps toward external beauty and mental culture, in order to awaken in him an interest for knowledge and to give him varied but not tiresome distractions and occupations, there is another link in the chain of measures for health preservation; the Houses of Rest.

3. The basic problem of the Houses of Rest shall be the improvement of the health of the laborers; and, on the other hand, no less important, the use of their spare time for the purpose of raising their culture level. As to the former, insofar as the purpose of the Houses of Rest is the establishment and improvement of the workers' health, it is necessary to establish for the Houses of Rest a suitable system of undertakings and activities for the weakened human organism.

This system should, first of all, include: external conditions of life under which a resting person can be set up; i. e., his dwelling, diet, the arrangement of his day, and, on the other hand, special measures which may be necessary for a strengthened metabolism, and improved blood circulation, and the establishing of a balance between the energy received and the energy spent by the organism for the purpose of accumulating that energy.

4. The Houses of Rest should be located in the country, best of all in pine forests, or in their vicinity; if there are none, then in any healthful locality which is not swampy and therefore not infected with malaria. Such houses may be placed even in cities, on sites with gardens or parks; but it must be kept in view that, to rest a nervous system tired out with the monotony of working life, it is extremely important to have, even for a short time, the greatest possible change of scene and of all surrounding circumstances, for which purpose, country places have a great advantage over anything else. The sites themselves, on which the Houses of Rest should be located, should particularly not be very large. It is not desirable to crowd into one place a great number of people who seek rest, from the standpoint of the wearing effect on the nervous system. Best of all it is, if cottages for 20-25 persons are concentrated into a comparatively small area, near a number of central institutions (club, reading-room, kitchen, dining-room, etc.). The locations, from a hygienic point of view, should be such as to secure the healthy condi-

tion of those who rest there at any time of the year and in any weather. Room capacity, ventilation, heating, lighting, amount of free space for staying during the day in bad weather, etc., should be taken into account, in accordance with the requirements of scientific hygiene.

Diet. In connection with the foodstuffs, the amount of calories should correspond to the standard adopted for sanitarium colonies. It is very important to pay attention to a sufficient variety of food and a sufficient amount of fresh (not salted or smoked) products, vegetables, etc.

Maintenance of cleanliness of the place, the body, linen, and clothing of the people, should be the cornerstone of hygiene at the Houses of Rest, not only for immediate hygienic considerations for the two weeks, but as an aid to the formation of habits, such as conscious desire to transfer that cleanliness also into the conditions of ordinary life. Therefore the Houses of Rest should be supplied with all accommodations necessary for this purpose, from a disinfecting room and a central laundry, to every sort of small conveniences such as lavatories, cuspidors, etc., and they should be assured water in quantities sufficient for all purposes.

Arrangement of life should correspond with that at sanitarium colonies, from the standpoint of proper assimilation of food, and day and night rest; but at the same time there should be a certain independence in the way of choice of occupation, and there should be time for various amusements, insofar as this does not interfere with correct life at the Houses of Rest, since, for the purpose of resting the nervous system and decreasing its tension, it is necessary as far as possible to avoid arrangement of a barracks character.

Another group of measures directed towards recovery of health at Houses of Rest have a more special character: these relate to measures aiding improvement of metabolism, establishment of normal blood circulation, balance in turnover of energy, etc. Of these undertakings, there can be two classes at the Houses of Rest: (a) hydropathic, such as douches, and, when possible, baths and bathing in open waters, with the dosing, temperature, and general methods of taking, under the instruction of, and, as far as possible, individualized by a physician; (b) gymnastics, which must be considered as most essential for such a short period as two weeks, and lessons in the art of "resting," which has an immense significance for the health of the organism.

Thirdly and finally, there should be assured at the Houses of Rest, special medical help, which can be organized by means of the construction of a central ambulatory (with a small ward of 5-10 beds for those groups of houses where

there are no hospitals nearby and no opportunity to transport patients), and a contagious ward of 2-3 beds; also, an apothecary. Persons who fall ill at the Houses of Rest should go to the hospital receiving station designated for such purpose, until they are sent to the hospital. There, the patients may be kept for several days, according to the character of their illness, especially if they are in need of hospital care, but yet are not suitable cases for care in the general hospital (pneumonia, influenza, etc.). The number of beds, of course, will depend upon the number of people accommodated at the House of Rest. Everyone entering the House of Rest must go through a medical examination, both to separate any sick persons who may happen to have passed the Control point, and also for a certain individualization of the regimen, diet, and such special measures as hydrotherapy and gymnastics.

Concerning the cultural and educational work, and for the purpose of raising political consciousness, it is necessary to form clubs with a definite staff of conscious and thoughful leaders who would be able to deal with groups having varied mental development; also, it is necessary to set up central circulating libraries, reading-rooms for general use, organizations for group readings with magic lantern, and opportunities for lessons in reading and writing; for those who desire diversion, there should be available the theatre, concerts, lectures, the organization of excursions, group exercises, and sports of all kinds (among other facilities, a gymnasium and the necessary gymnastic apparatus).

More detailed plans, both in the educational and physical culture fields, should be outlined and controlled by the organization controlling physical culture education outside the schools.

5. For the purposes of efficiency, economic administration, and medical inspection, the Houses of Rest should be arranged in groups of 100-200 beds each and no more. Each group should have a club, a central library, its own instructors on culture and educational work, physical culture, its own medical inspection, ambulatories with receiving stations and quarantines, baths and disinfecting rooms; but laundries should, insofar as possible, be built for not over 100 persons.

As locations for Houses of Rest, villa settlements might be used, but only those with the larger cottages having accommodations for at least 20-25 people; also, monasteries located close together and not far from railroads (with their attached villas and settlements), might be adapted; also, private estates in the vicinity of Moscow or of other cities, when

surrounded by gardens, and if possible on the bank of a river. The settlements of the Houses of Rest should be completely separated from children's colonies. In addition to the locations having to fulfill the present needs of sanitation and hygiene, they should also have the character of beautiful and comfortable dwellings, thus developing an esthetic feeling in the people resting there. For this purpose, an artist-architect should be placed on the staff of the Section of Houses of Rest. (We reject the Petrograd system of building the bedrooms after the fashion of hospitals, in order to economize space.)

Under present conditions, we must restrict adaptations in the line of repair and reconstruction of existing places. Nevertheless, we must immediately prepare and work out a special type for Houses of Rest (work for a sanitary doctor and an architect).

The organization of Houses of Rest is controlled by a special organization, a Section of the Sanitary Sub-Department, organically connected with it. At the head of each group of Houses should be a specially delegated person, with full responsibility, and preferably, though not necessarily, a doctor; but each group must have a physician responsible for all medical and sanitary care. Each individual House must also have its director, discipline being maintained by special regulations.

The routine of admission to a House of Rest is not different from that at sanitariums; i. e., the candidates pass through a medical control Commission of the Sanitary Sub-Department, which shall specify whether the given person shall go to the House of Rest, to a sanitarium, or to a health resort. On coming to the House of Rest, everyone goes to the bath, receives from the House of Rest a change of clothing, and all personal clothing is sent to the disinfection room.

The question of diet should be the object of special medical consideration. Supply, equipment, and medical inspection are controlled through the Sanitary Sub-Department, which should also control the question of heating, and the making of improvements; but technical matters of construction are under entirely separate control. Here, in view of the urgency of special hurry, the Section must employ one person and with him an organization to direct and control repairs and reconstruction. It is preferable that such a person be an architect, which would be an advantage in cases involving special decisions of a constructive technical nature.

Neither estimates nor staff can for the present be fixed, but a sufficient advance is necessary. Good means of transportation are quite necessary for quick organization—auto-

mobiles and 8-10 business workers, in the capacity of agents, who should be recommended by the Trade Unions. The mode of distribution of places and even their development may be conducted with slight changes, by the Petrograd system, by means of allotting a certain number of places for each union, in proportion to the number of its members, and taking into account the risks of a given industry. This question, in any case, should be discussed more or less in detail by the Trade Union Soviet, and the Health Department.

Note—1926

In view of the difficulty in securing information concerning the Russian Rest Houses, the writer noted with interest an article by Junius Wood entitled "Russia of the Hour" in the *National Geographic* for November 1926. In this article, appeared the photograph reproduced herewith. Inquiry from the Editor brought the suggestion of a personal letter to Mr. Wood in Russia, and in reply, under date of December 13, 1926, the following information was received:

"These establishments are not only outside and inside of every city but in considerable numbers in the Black Sea summer resort section. They divide roughly into three classes: where the visitor receives medical treatment; where the treatment is little more than a regulated diet and routine; and simple loafing places like any other vacation resort. Except the first classification, practically all are maintained by different unions for their members. Though the demands on their space are beyond their extensive capacity and many minor things can be criticized as in any institution, they undoubtedly are a great addition to making life brighter and better for the workers and their families."

PART II

I

Notes on Convalescent Work in The U. S. Army*

I—Introduction

The notes which follow record certain activities of the writer during seventeen months of service in the U. S. Army, in the period from December, 1917, to June, 1919. This service was almost exclusively concerned with various phases of work having as an objective, improvement in the care being given the convalescent patient. The notes themselves, having been put together substantially in their present form for submission in connection with a report filed with the Executive Committee of a large civil hospital early in 1920, were obviously written before the memory for details of the work and the clearness of the impressions gained, could have become unduly dulled by an excess of intervening years. On the other hand, five years having now elapsed between the date of the original preparation of these notes, and their presentation herewith, there has perhaps been acquired with regard to their subject matter, a degree of perspective which might have been lacking, had the notes been published immediately upon their completion, in 1920.

It is only in war time, as W. S. Thayer has pointed out, that the value of convalescent care is seen in its proper perspective. Thus Thayer, speaking as Chief Medical Consultant for the A. E. F., has stated that "apart from the fundamental question of diagnosis, the medical man was confronted by two problems; prophylaxis, and his duty to the patient during convalescence."

A little something did get done about Reconstruction and Convalescent Care in our Army. Yet, with one important exception (Bridgman; *Arch. Int. Med.* 1919, XXIV, 65), there has become

* Bryant: Boston Med. and Surg. Jour., 1925, excii, 943.

available almost no literature upon the subject of convalescent care in the Army.

From present indications, recent Army work in this direction will soon have been overtaken by the same fate which befell the work of Da Costa and others during the Civil War. In a word, it will have been forgotten, to be rediscovered rather late in the next war.

The writer was fortunate enough to have been brought in contact with varying aspects of Army convalescent work. Thus, he took part in active ward work, and later organized and conducted a Convalescent Department in a General Hospital carrying about 2000 patients. Thereafter he was assigned to special investigating and inspection work, by the Division of Internal Medicine, S. G. O. Subsequently, as Field Consultant, he was in a position to influence the application of the policies of the Division of Reconstruction, S. G. O., in the Northeastern hospital area. This area then carried in its hospitals (total capacity approximately 20,000 beds) some 14,000 patients. The period of service as Field Consultant to the Division of Reconstruction, S. G. O., included the period of the peak load of the return of the wounded from France, at which time there was in the Army hospitals within the United States, a maximum of 74,946 patients.

In view of the above rather varied opportunities for work and observation, and in view of the absence in the literature of any available comprehensive review of Army convalescent work as conducted in the United States, it has seemed desirable to record those aspects of this work personally known to the writer, in the hope that even in small measure some benefit may thereby eventually result to the peacetime armies of the convalescents and the half-cured everywhere to be found today within and without our civil hospitals.

II—Convalescent Work at Base Hospital, Camp Grant

For the first four months of 1918, before organized Convalescent work had appeared in our Army, the writer was concerned with the care of general medical patients. Originally offered a commission as Gastro-enterologist, it seemed that, except for the subject of intestinal parasites, there was comparatively little Gastro-enterological work at the Base Hospital during the period in question. The writer therefore worked for the greater part of these four months in the general medical wards. During one emergency, when there

was an epidemic of measles in the Camp, and while cross-infection was causing great disturbance in the wards, the writer, at the suggestion of Dr. J. A. Capps, worked out many details of the use on patients of the gauze face mask as a preventive of cross-infection. Most of these details were utilized by Capps (*Jour. Am. Med. Assn.* 1918, LXXI, 448), in his recommendation for the use of gauze masks by patients (in addition to their use by the staff), for the purpose of preventing cross-infection in hospital wards.

During the progress of this work, there were large numbers of otherwise healthy patients in the wards, who were merely awaiting the expiration of the quarantine period before being discharged to full duty after their measles attacks. These patients were naturally exceedingly restless. It was at this time that the writer became actively interested in the details of keeping ward patients thoroughly well occupied, both mentally and physically. From the points of view both of hospital discipline, and of prompt recovery of the patients, the results obtained were decidedly satisfactory. This was in contrast to the results being obtained in adjacent wards where measles or other post-infectious patients were not similarly occupied.

Thus, in the adjoining wards, it was very difficult to maintain order for a half hour before and after lights were ordered out, at nine P. M. My patients were however glad to retire quietly to bed by 8:30 P. M. In fact, almost without exception they were sound asleep before the lights were even put out.

The positive advantages of a special slow type of exercise employed, and its usefulness in facilitating convalescence, may be suggested by the case of an English Army sergeant detailed to Camp Grant as sniping instructor. This sergeant was short in stature but of powerful physique. He had been invalided to this country on account of severe rheumatism. As a result of exposure, he had a return of his rheumatism. It was for four days sufficiently acute so that he required large amounts of morphine for relief of pain. At the end of a month, he was free from pain, but could walk only with great difficulty. He had been anxious to join in the ward exercises for some days. When allowed to do so, he was at first so stiff and weak that he could hardly perform any movement completely. Four days later, he was sufficiently limbered up so that he could run the length of the ward. Two days later he was discharged, according to his story, in better health than before his attack of rheumatism.

In April, 1918, transfer was requested from the Base Hospital, Camp Grant, to some point where the writer could be more exclusively engaged in Convalescent work. The consequence of this request was immediate transfer to the Walter Reed General Hospital.

III—Convalescent Work at the Walter Reed General Hospital

Immediately after reporting for duty at the Walter Reed General Hospital, with the enthusiastic coöperation of the Commanding Officer, and of Major Randolph, then Chief of the Medical Service, the writer organized and for some months conducted a Medical Convalescent Service; this operated nominally within the jurisdiction of the larger Medical Service, but practically as an independent unit.

The usefulness of this Convalescent Service became sufficiently evident so that it was given official recognition by the Commanding Officer, under the title of Special Convalescent Service, in a General Order of July 17, 1918, which specified the classes of cases to be referred to it. This Service continued active under the title of Special Convalescent Service until September nineteenth, when, as a result of a reorganization of the medical services at the Hospital (G. O. No. 55), the Special Convalescent Service became the Convalescent Department. The Convalescent Department continued active during the earlier part of the influenza epidemic, and until the writer was ordered to detached duty for the purpose of investigating the care being given chronic medical patients in other Army Hospitals.

An independent opinion as to the functioning of this Convalescent Department is available, in the form of a letter, under date of May 10, 1918, from former Major Randolph, to Dr. Richard Cabot. The following paragraphs from this letter are quoted by consent of Dr. Randolph.

> Subject: Hospital Treatment of Convalescents.
>
> Major John Bryant has requested me as an independent observer to give you my impressions of the value of the work instituted and carried out by him at the Walter Reed Hospital as Chief of the Convalescent Section, with especial reference to its availability in civil hospitals. I take great pleasure in complying with his request, since he was the means of successfully solving, in the Service of which I was Chief, a perennial hospital problem, one which, at the time of his assignment to duty at the Walter Reed Hospital, had become the chief concern with which I had to deal.
>
> Following the operation of the draft, a constantly increasing factor in our work was the treatment and disposition

of subnormal and chronic individuals. These came to us either as straight out defectives, or were admitted with maladies of temporary character from which they did not make normal recoveries. To these were added the inevitable complement of those whose active treatment under the admission diagnosis had been complete, yet who did not progress to complete convalescence. The assignment of Major Bryant, a man who had specialized in the management of chronic invalids, furnished the means of taking hold of the problem in a concrete fashion. After a short experimental period, the Convalescent Section of the Medical Service was made an integral part of the Hospital Organization. The material referred to it was collected into separate wards, and systematically studied, classified and treated along the lines worked out by Major Bryant.

Without elaborating, it can be stated that the work of this section was most efficient and satisfactory during its period of operation. In addition, it served as a valuable check upon the thoroughness of the work in other departments. The results may be summarized as follows:

1. Prompt orientation of each case transferred to the section, so that its prognosis could be stated, and its future requirements determined.

2. Shortening of the stay in the hospital, so that the hospital facilities could be employed to a greater extent for the acutely ill.

3. Elimination of the prevailing "dead" period between the completion of active medical or surgical treatment and the time of fitness for duty.

4. Shortening the convalescent period by constructive therapeutic procedures, and at the same time effecting a more complete restoration.

5. Returning to proper Service, for further treatment of disabilities whose presence had been overlooked.

I am strongly of the opinion that this method is needed in civil hospitals, both from the standpoint of efficiency and of public economy. There can be no dispute that every large general hospital carries a very definite proportion of patients whose treatment is more or less neglected. If a system is offered by which the progress of such patients is continually furthered, the benefit from both the therapeutic and the economic points of view is obvious. It is to be noted that the method does not increase the number of beds. It is a rearrangement rather than an extra department. With us the increase in equipment and personnel was trivial, and was more than compensated for by the results obtained. I believe, also, that it is an advantage to have such a department within the

active hospital itself, as its value as a coördinate part is important.

I could elaborate on the points suggested by what I have said, but I do not feel that it is necessary. Major Bryant's experiment at the Walter Reed Hospital has, in my opinion, demonstrated a successful method of dealing with a situation that constitutes a legitimate ground for criticism of our profession, both in hospital and private practice; and one which contributes largely to the prosperity of quacks. I feel that it is the one original contribution made to medical progress during the war by the Medical Service of the Walter Reed Hospital.

B. M. Randolph.

A brief outline of some of the activities of this Convalescent Service is provided in the report which follows. This report was submitted by direction, as one detail of the Hospital work to be contributed to the Medical History of the War.

WALTER REED GENERAL HOSPITAL

Report on Convalescent Work, May 1st to October 15th, 1918

Convalescent work as a definite entity was begun at the Walter Reed General Hospital about May 1, 1918, by Major (then Captain) John Bryant, shortly after his assignment to this post for duty, and in continuation of work previously carried on by him.

Ward G, now Ward 13, was first occupied. Among the earlier patients were a considerable number of "irritable heart" cases. Owing to the uncertainty clouding their treatment, first-hand knowledge was desired before resorting to exercises. Hourly pulse charts were run on all patients in the ward for one month. It was established that the pulse rate did not react excessively to reasonable exercise. In fact, a much greater variation was caused by the simple change in posture from bed to standing, on arising in the morning; the pulse then remained at a level distinctly high throughout the day, and returned to a low level (60-70) after the patient had gone to bed at night. The most extreme variations were invariably associated with emotional upsets.

Once the safety of exercise was established, a formal garden adjoining the ward was designed by the officer in charge. In one week (early in June) it was laid out, dug, fertilized and planted, entirely by the morning labor of the patients on the ward; during this period there was ample opportunity to prove that the heart cases not only could do, but enjoyed doing pick and shovel work for short periods of time. Tran-

sient dyspnoea, increased precordial pain, and fatigue were observed; but there were no lasting ill effects. On the contrary, the work often seemed to provide an outlet for the emotional crises always associated with the most marked variations in heart action. There was, however, ample opportunity to demonstrate that these cases are not front line material; in fact, they have all been sent to Domestic Duty or Discharged.

The week following the making of the garden was occupied by the creation of a small playground on the other side of the ward. Provision was made for pitching quoits, tether ball, croquet, bowling, tennis, and indoor baseball, the necessary equipment being obtained through the personal efforts of the officer in charge. Of these, quoits, tether ball, indoor baseball and volley ball have proven the most useful and also the most popular, with volley ball distinctly in the lead for the class of patients under consideration. The medicine ball and simple running games have, of course, also been useful.

Previous work by the officer in charge had proven the routine heavy hospital diet deleterious to the cardiacs, the chronic arthritics, and the chronic gastro-intestinal cases. Light diet was made routine for all patients under observation. Results were not satisactory. The light diet was found to consist of clear soups, cereals, eggs, and bread and milk. As a result of personal investigation the light diet was modified; it has since been used exclusively, with excellent results.

Official recognition was taken of the Convalescent work, by the establishment on July 17th, through G. O. No. 39, W. R. G. H., of the Special Convalescent Service. This order outlined the classes of cases acceptable. In August, between 50 and 60 cases were being cared for in Wards 12 and 13, and by this time a complete daily schedule had been put in effect, so that the patients were occupied the greater part of the time from 6 A. M. to 5 P. M. Discipline, play, and exercise ensuring physical development were provided for, and, in addition, two hours daily were devoted to mental occupation, largely in the form of grammar school work under the auspices of the Educational Department. In this connection, it is desired to express appreciation of the opportunities provided and the spirit of coöperation shown by the members of this Department under the leadership of Major Baldwin.

The rapidity with which academic and technical knowledge has been acquired by patients to whom opportunities for education had previously been denied, the eagerness and gratitude of the patients, and the demonstrated possibility

of creating a skilled worker from a patient with no previous special qualifications, during the course of, and with benefit to rather than interference with the course of medical treatment of a chronic condition, thus injecting education as a by-product of medical treatment, has been one of the most substantially satisfactory results of the entire experiment.

All patients out of bed were and are required to go to the Educational Department between the hours of 1 and 3 P. M. The kind of work undertaken is left to the patient and the instructor. It is well here to point out that the more men who have had the opportunity for education in hospital before going to France, the easier it will be to interest men in reconstruction on their return from France.

There has been left no room for doubt that both the physical and mental improvement of the men has been more marked in proportion as they have been profitably employed at school in bettering their status educationally.

In addition to routine fitting of invalids for duty, two other aspects of the work have proven interesting. The first is the method of separating out the element of mild malingering in a given case not progressing normally, by indirect observation of the patient during his hours of work and play, when for the most part observation is not suspected by the patient.

The second point of interest, is the way in which the Convalescent Service has acted as a check upon the work of the medical services. It is obvious that some check is needed, when out of the first 100 dispositions there were 32 retransfers to other services for treatment of overlooked pathology. The amount of additional investigation undertaken is evidenced by the fact that in a ten-day period late in August, there were 200 calls to special examinations for patients in Ward 13.

One result of this demonstration was the publication of Memo. 43, W. R. G. H., September 7th, requiring a diagnostic survey by ward surgeons of all cases remaining in hospital two weeks or more.

On September 19th, as a result of the reorganization of the Medical Services under G. O. 55, W. R. G. H., the Special Convalescent Service became the Convalescent Department. Shortly thereafter its location was changed, and at the present time this Department is in a state of metamorphosis in wards and grounds still in process of completion. During the past week there have been from 150 to 200 patients, mostly influenza cases, on this service.

John Bryant, *Major M. C.*,
Director, Convalescent Department.

December 14, 1918.

CHART I—Record of pulse rate, Pvt. H. M. G., June 8 to 14—IRRITABLE HEART

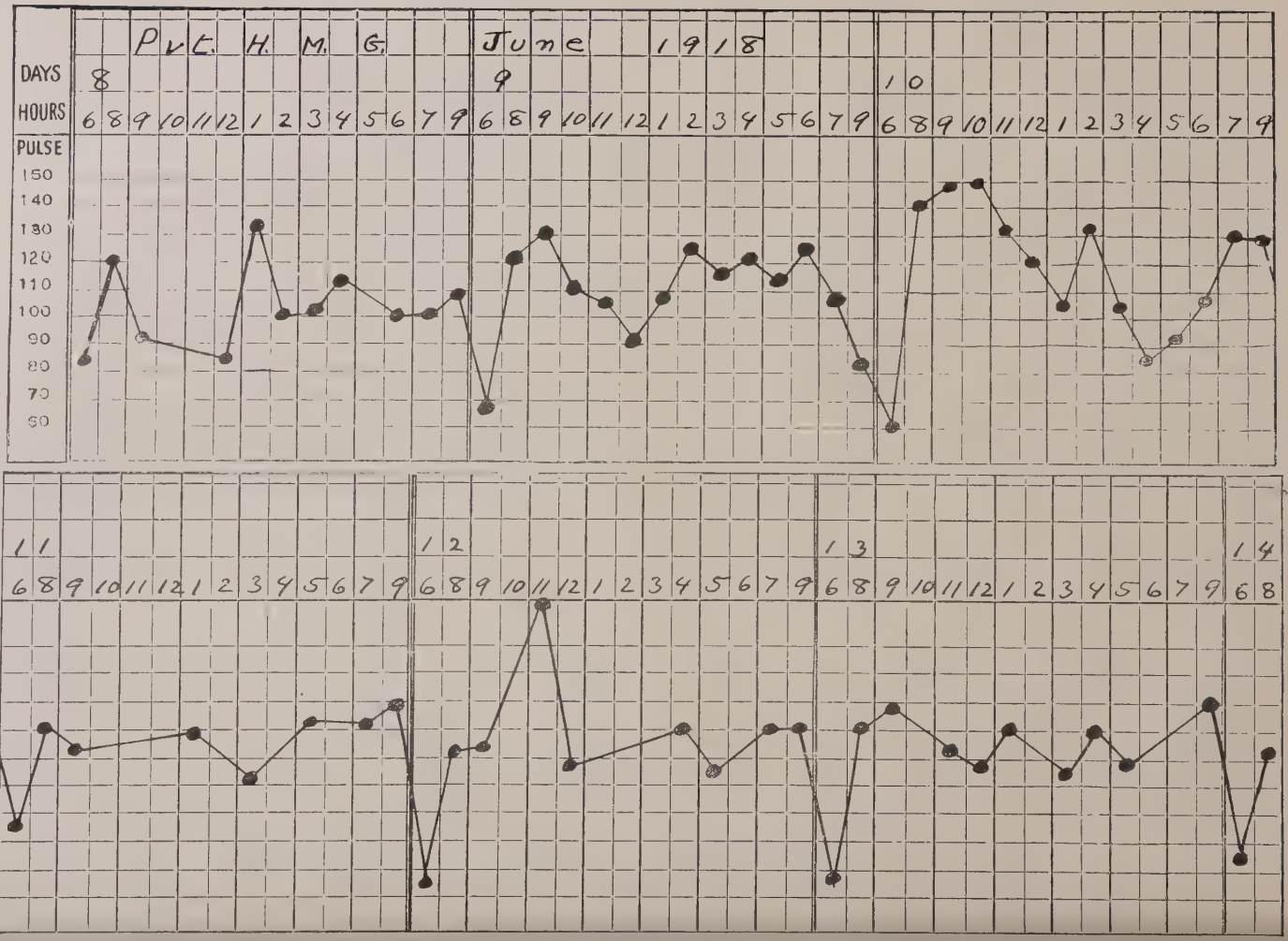


Chart No. I gives a portion of a typical pulse record on one of the "irritable heart" cases mentioned in the above report. This case is of interest because of the clean-cut etiology, sudden onset, and marked degree of physical disability due to the heart condition, which persisted during prolonged observation; also, the prognosis was clearly given, and verified by follow-up reports from the mother of the patient. Incidentally, this patient is the one referred to later in this paper as the casualty resulting from the baseball game organized by the Convalescent Department patients, and played to a capacity gallery of other patients, the opposing teams playing with a fierce mental intensity under the stimulating sobriquets of the "Bad Hearts" and the "Rheumatisms."

Pvt. H. M. G., aged twenty, tall, well proportioned, and physically powerful. Before entering army service, was in excellent health, being a member of his varsity football team in California.

After arrival in Pennsylvania and assignment to a mobile unit for early overseas service, he caught pneumonia following exposure. Immediate recovery was excellent, but he was allowed to return to camp too soon. Patient immediatey started doing heavy duty to prove his fitness to travel with his unit.

Within a week, patient had been incapacitated for duty and returned to hospital, as a result of severe pain in the cardiac area following upon and proportional to the degree of physical exertion.

The patient came under observation of the writer about two months after the onset of the heart condition. There had been practically no improvement at the time of discharge from the army, some two months later.

Pvt. H. M. G. and his mother were both given clearly to understand, at the time of discharge, that the heart condition was present for life, unless strict attention was given to a very slowly progressive routine. This routine was planned to cover four years of gradually increasing physical effort, at the end of which time it was hoped that the patient might be entirely recovered from the heart disability.

The patient, a sophomore, was advised to complete his college course but to engage in no organized athletics. All that was permitted was individual exercise where control did not depend on others. But with this stipulation, and the further proviso that all exercise must cease instantly on the

return of and for the duration of pain or discomfort in the cardiac area, the patient was encouraged to slowly widen the range and force of his exercise.

The result was satisfactory. At the end of two years there had been gained some 50-75% of improvement, and at the end of four years, the patient was for practical purposes, able to forget that he had had a "heart."

Diet, adequately controlled, proved to be one item fundamentally important to the successful conduct of this Convalescent Service. On the basis of previous gastro-enterological experience of the writer, the diet being provided at the Hospital was considered unfavorable for convalescent patients. A special diet was arranged, and thereafter used with considerable satisfaction on the Convalescent Service. This diet proved in fact sufficiently satisfactory so that it was later adopted, with only slight modification, as the general Hospital Diet.

A brief report upon the dietary changes made by the writer, was required for the elaboration of the Hospital's contribution to the Medical History of the War. A copy of this report upon diet follows; likewise, a copy of the Hospital Memorandum of October 5, 1918, establishing this diet (modified later by the addition of meat daily at noon) as Hospital Diet for all patients.

Great difficulty was at first experienced in having this diet properly cooked and served. When properly cooked and served, there was never serious objection from any patient, and there never was any complaint of shortage of food. It is understood however that shortly after the writer was relieved of active duty at the Walter Reed, the pressure exerted by friends of patients was sufficient so that the customary high meat diet soon replaced the Hospital Diet recommended in the above-mentioned memorandum of October fifth.

WALTER REED GENERAL HOSPITAL

Report on Dietary Changes, May 1st to October 15th, 1918

During the month of May, in the conduct of Convalescent work, it was found by Major (then Captain) John Bryant that the chronic intestinal cases under his care did not recover as promptly as this officer, on the basis of previous experience, had expected that they would. These cases and all other cases in the convalescent ward were getting routine light diet. This was investigated. It was found to consist

of cereals, clear soups, eggs (mostly cold hard boiled, or scrambled), bread and butter. Obviously this diet could be improved.

A suitable diet was arranged for and ordered, and on July 6th by Memo. W. R. G. H. it was made official "Soft Diet." It required several weeks of effort before the quality and finish of the food became satisfactory but thereafter no complaints concerning diet were heard, notwithstanding the fact that these convalescent patients were doing more physical work than any other patients in the hospital. Food was at this time served on the convalescent wards.

On account of the transfer of the Convalescent Department to new and unfinished wards it was necessary that the patients should go to the general mess. With the change from the above "Soft Diet" to routine hospital diet with three meals daily of eggs or meat, there was an immediate increase in digestive disorders of these patients.

Within forty-eight hours every nurse on duty reported with astonishment a sudden and almost universal demand for cathartics, a demand which had scarcely been heard in the preceding two months during which the patients had been given the "Soft Diet."

This was considered sufficient reason for bringing the attention of the Commanding Officer to the condition of the Dietary in the Hospital. There resulted S. O. 269, W. R. G. H., October 3rd, 1918. The board authorized to investigate the Dietary met and as their recommendation advised the adoption of the above "Soft Diet," practically without change, for all patients except those on liquid or special diets, under the name of Hospital Diet. This action was taken on the ground that men sedentary in hospital are harmed rather than helped by a high meat diet.

This Hospital Diet has now been in use about two weeks. It is giving satisfaction, and causing few complaints. Most of the patients prefer it, and the mess officer states that he is giving more liberal portions in spite of the fact that on the basis of 2000 patients he is saving about $40.00 daily to the Hospital. There are two prerequisites to success in the use of this diet: reasonable care must be used in making out the weekly menu; and all food must be inspected with regard to quality, thorough cooking, and proper finish before serving, to insure palatability and flavor.

John Bryant, *Major M. C.,*
Director, Convalescent Department.

October 15th, 1918.

WALTER REED GENERAL HOSPITAL
Takoma Park, D. C.

Special Orders No. 269. October 3rd, 1918.

Extract

8. A Board of Officers is hereby appointed to investigate the diet of patients in the Main Hall, and to make such recommendations for its improvement as may seem advisable.

The Board of Officers as appointed in par. 8, S. O. 269, of this Hospital, October 3rd, 1918, met at 11 A. M., October 4th, 1918, and after investigation and consideration of the diet of patients at this Hospital, makes the following recommendations:

1. That the diet for all enlisted patients except those on liquid or special diet shall be known as HOSPITAL DIET and shall consist of the following articles of food:

Breakfast: Stewed fruit, cereal, butter, toast and coffee. (Bacon or substitute added for winter.)

Dinner: Thick soup, meat, 1 starch food, 1 protein vegetable, 1 green vegetable, dessert, butter, crackers and coffee.

Supper: 1 protein vegetable, 1 starch food, 1 green vegetable, pudding, jam or jelly, bread, butter and tea.

2. That patients on HOSPITAL DIET served in wards will not receive milk, sugar, butter, crackers and bread, unless these supplies are requisitioned on the blank form furnished for the purpose. The allowance on requisitions is as follows:

Milk: 1 pt. for each patient.
Sugar: 3 ozs. for each patient.
Butter: 1 1/6 ozs. for each patient.
Crackers: 1 lb. for each 3 patients.
Bread: 1 lb. for each 6 patients.

3. That the menu for the HOSPITAL DIET for one week in advance shall be filed in each ward office. This menu shall be consulted by the ward surgeon in the preparation of special diets and the mess department notified in advance whenever it is desirable to eliminate items from the diet as listed.

4. That patients on liquid diets will be allowed one quart of milk and two eggs daily from the mess storeroom on requisition. Broth will be kept on hand in the main kitchen for patients on liquid diet. This may be obtained throughout the day as desired by the ward surgeon.

5. That the ward surgeon will be held personally responsible for the diet and storeroom requisitions. They will be signed by the ward surgeon as required by the Manual for the Medical Department and submitted to the mess department before 9.30 A. M.

6. That ward surgeons and head nurses will be responsible for any waste of food. They will require the return of all food fit for further use to the kitchen.

CHARLES A. REGAN: Lieut.-Colonel, M. C., U. S. A., Ret.,
JOHN BRYANT: Major M. C., U. S. A.,
LUTHER C. COPLEY: 2nd Lieut., S. C., U. S. A.

Approved: With the following modifications; October 7th, 1918. Paragraph 2:

Sugar: 1½ ozs. for each patient.
Butter: 1 oz. to each patient.
Crackers (Hardtack): 1 lb. for each 3 patients.
Bread: 1 lb. for each 3 patients.

E. R. Schreiner,
Colonel, Medical Corps, U. S. A., Commanding.

The subject of diet has been referred to at some length, as being a basic factor in promoting the recovery of convalescent patients. There is serious doubt as to the necessity for providing the patient convalescent in hospital with a heavy meat diet. Certainly during the writer's experience at the Walter Reed General Hospital, the use of a heavy diet was proven actually harmful. The question if a convalescent patient can obtain sufficient calories per day upon the diet utilized by the writer, is solved by not restricting the total quantity of the actual foods allowed by this controlled diet. The menus offered were easily capable of providing 3000 calories per day. One arthritic patient not only gained fifteen pounds in three weeks upon this diet, but showed marked improvement in his general condition. It is therefore obvious that if a patient has a normal appetite, the diet is adequate.

It was further proven that many patients found it pleasanter to continue to live in hospital, than to live outside. The tendency in this direction was to some extent discouraged, without the slightest detriment to health, by the special diet provided.

The actual living details of the convalescent patients having been arranged, it soon became obvious in practice that many patients re-

ferred to the Convalescent Service were suffering from inadequate medical attention. Consequently, the Convalescent Service was forced to act as a check upon the work of the other medical services. It is obvious that some check was needed, when out of the first one hundred dispositions from the Convalescent Service, there were thirty-two retransfers to other services for treatment of overlooked pathology, with 10% of the total dispositions exclusively to the Neuropsychiatric Service.

The amount of additional medical investigation sponsored by the Convalescent Service in its desire to promote the health of its patients may be evidenced by the fact that in one ten-day period late in August, during which a count was made, there were two hundred calls to special examinations for the patients in that ward of the Convalescent Service in which the question of medical diagnosis was reviewed.

In general, the objectives of this medical Convalescent Service were stated to be as follows:

1. To weed out the unfit.
2. To speed up the disposition of doubtful cases.
3. To speed up normal recovery.
4. To bridge the present gap in treatment from acute illness to full duty or Convalescent Camp status.
5. To provide close control of Sub-acute Convalescence until such time as the patient is considered fit to leave hospital for duty or Convalescent Camp.

The classes of patients acceptable on the Convalescent Service were outlined as follows, in a General Order of July seventeenth:

A. Post infectious, (serious).
B. Post operative, (serious).
C. Hyposthenic.
   (1) Neurasthenic.
   (2) Circulatory.
   (3) Gastro-intestinal.
   (4) Orthopedic.

In this General Order, it was necessary to state that a suitable case would be transferred only after the completion of active medi-

cal and surgical treatment, and after consultation between the Chief of Service from which the patient was to be transferred, and the officer in charge of the Convalescent Service. This reservation was necessary in view of the fact that often the transfer of patients to the Convalescent Service was attempted notwithstanding very fragmentary previous medical work. Even after a reasonable amount of accuracy in medical work had been obtained, it was found that patients frequently arrived upon the Convalescent Service with inadequate data.

Preliminary Medical Routine

Based upon practical experience, a medical routine was established, and the history of every patient arriving upon the Service was as soon as possible thereafter checked for the existence of the following information:

(1) History checked for deficiencies.
(2) Physical Examination.
(3) Nose and Throat Consultation, including streptococcus throat smear.
(4) Dental and sinus X-rays.
(5) Dental examination.
(6) Wassermann Test.
(7) Blood Examination.
    (a) Differential white count.
    (b) Total whites.
    (c) Total reds.
    (d) Hemoglobin.
(8) Neuro-psychiatric Consultation.
(9) Occupational Assignment.
(10) Blood Pressure.
(11) Weight, and twice weekly.
(12) Urinalysis, and once weekly.
(13) Usual pulse, temperature, respiration record.
(14) Hourly pulse chart, at least four consecutive days, from 6 a. m. to 9 p. m.
(15) Pulmonary, Cardiac, and other consultations as indicated.

The completion of this preliminary medical routine usually required from three to four days. At its conclusion, and provided that it had not disclosed information sufficient to warrant immediate retransfer for further active medical or surgical treatment, the patient entered upon the regular routine of the Convalescent Service.

This regular routine was planned to care for the patient medically, to develop him physically, to occupy him mentally, to promote the restoration of health, and to eliminate the malingerer. The daily routine, or Convalescent schedule, was as follows:

Convalescent Service

SCHEDULE

Time	*Routine*
6.00 A. M.	Up.
6.00 - 7.00	Make beds—Wash up.
7.00	Breakfast.
7.30 - 9.00	Clean Ward.
9.00 - 9.15	Ward Round.
9.15 - 9.30	Quick Exercises.
9.30 - 9.45	Foot Exercises.
9.45 - 10.00	Food (Canteen).
10.00 - 10.30	Military Drill.
10.30 - 11.30	Garden and Games.
12.00 N	Dinner.
1.00 - 3.00	Mental Occupation.
3.00 - 3.15	Food (Canteen).
5.00	Supper.
5.00 - 9.00	Free.
9.00 P. M.	Quiet.

As the Convalescent Service developed, it became obvious that it was impossible to occupy a patient with purely medical details for more than perhaps an hour a day. The next element in occupation which was added, was graded exercise.

The exercise routine began with a short series of setting up exercises (17 movements), followed by a series of seven exercises for the feet. There followed for the more advanced patients a half hour of military drill. All patients were obliged, in decent weather, to be out of doors from 10:00-11:30 during the mornings. In this

PLATE 72

Consultation on Construction

PLATE 73

Clearing Ball Field

PLATE 74

"Indoor" Baseball

PLATE 75

Pitching Horseshoes

PLATE 76

Pitching Horseshoes—Close Decision

PLATE 77

Croquet

period, there was obligatory garden work for the weaker patients; and various games such as "indoor" baseball and volley ball occupied all who were fit to take part in such exercise.

The rather undress pajama costumes illustrated, were routine on the Convalescent Service. Firstly, they were cooler than O. D. uniforms, and the weather was hot (maximum 107° F in the wards). Secondly, men dressed in pajamas are when A. W. O. L. more conspicuous than when in uniform. One malingerer, who said the "Mayo brothers" had told him he could never sleep with less than four pillows on account of a bad heart, was not satisfied with routine pajamas as a damper on social engagements, and required resort to the removal of his slippers and the lower half of his pajamas, before consenting amid deluges of profanity to remain on the ward for continuous observation adequate to establish court-martial proof of his malingering.

In the afternoon, the time from 3:15-4:30 was occupied by routine exercises which were obligatory for all patients out of bed. These exercises were of the slow type previously found by the writer to be especially valuable for convalescent patients. The 33 individual movements were carried out very slowly, i. e. at the rate of nine to ten seconds per linear foot of distance. Each movement was repeated three times. A rest interval of ten seconds was required for complete relaxation between each movement, and a further series of rest intervals for relaxation, of one minute each, were required between each of the 13 groups in which the movements were arranged, the whole schedule requiring about one hour for its completion. This type of exercise has been referred to in a published article (*Trans, Am. Gastro-Enterol. Assn.* 1918) under the title of "Developmental Exercises for the Chronic Intestinal Invalid." As conducted at the Walter Reed, it is referred to in another article, (*American Journal of Electrotherapeutics and Radiology,* March, 1920). Also, many of the exercises in this routine are recorded in Washington (Motion Picture Film No. 188, Instruction Laboratory, S. G. O.).

One might be inclined to think that the amount of physical occupation above outlined would prove adequate for the day. This was however not the fact. Usually, there being no officers' quarters on the hospital grounds, the writer went off duty and retired to Chevy Chase for the night about 6:45 P. M. It appeared that the really

high-class outdoor activities did not begin until about 7 P. M., from which time they continued in one form or another until 8 or 8:30 P. M.

One of the high lights in these personally conducted twilight activities of the patients was learned of only because one morning it was necessary to find out what had happened to one of the patients, a fine physical specimen but with an irritable heart apparently due directly to physical overstrain resulting from a too rapid return to duty after pneumonia*. On asking the patient why he was unable to be out of bed in the morning, no adequate explanation was obtainable. Later in the day, after a little judicious questioning of other sources, it developed that the boy in question had been a participant in a baseball game. This baseball game was staged between the Bad Hearts and the Rheumatisms. It was apparently well advertised throughout the hospital, and when play began the game was followed by an eager group of between three and four hundred spectators (patients) who perched themselves upon roofs and all other available advantageous points of view. Excitement grew intense, and doubtless noise also. Eventually, the Bad Hearts defeated the Rheumatisms by a close margin, but only with the resulting casualty above mentioned. This incident is mentioned to show that, although much real work was conducted in the Convalescent Department, it was not enough to prevent the men themselves from enjoying themselves somewhat after hours, and then often in directions following the required routine for the day.

Simple things gave much pleasure to the sicker patients. For weeks, the men delighted in the early morning and sundown visits to the garden, of a black kitten and a white hen. The kitten chased grasshoppers, and the hen sought bugs. Twice daily these pets appeared from somewhere, put on their original vaudeville stunts, drew smiles from all on lookers, and disappeared only to reappear and perform again and again on the days that followed. It is difficult to estimate the ultimate health value of these two little pets.

With the patients willing and ready to do the work asked of them, it became the responsibility of the officer in charge to see that there were forthcoming at the times desired, the materials with which to work. Picks, shovels, and rakes were easily obtainable; but lumber for garden seats, and 100 feet of rubber hose, and other such

*See Page 119.

odd items, were not so easily come by. However, if official requisitions failed, it seemed only necessary to mention that so-and-so was needed, and so-and-so appeared, from somewhere, with not too many questions asked. Water for the garden was obtained by a process of connecting the much prized hose to the threaded faucet of the kitchen sink, through a hole inconspicuously bored in the kitchen floor. Flowers for the garden came in part from the hospital supply, but mostly from a temperamental greenhouse owner who, though he refused to deal with the hospital as such, seemed glad to give to the garden of the Convalescent Department. Thus, in one way or another, things happened according to schedule.

The necessary athletic supplies, to a value of nearly $100.00, were obtained by the writer as gifts from the larger department stores of Washington; these gifts resulted from conversations one afternoon with certain store managers, all of whom proved most sympathetically helpful. The supplies thus generously given were immediately transported in the writer's own automobile to the Convalescent Department, where within a few minutes most of them were in active use. These supplies were at the time so coveted in other parts of the hospital, that it was necessary to detail one man to act as constant guard for them, to prevent undue evaporation of such highly "expendable" property. It was only later that athletic supplies were issued for the Army, as potent aids to the maintenance of morale.

The garden and other work involved a really considerable total of what might be called practical home occupational therapy. There might have been difficulty in its accomplishment. Actually, all work of an obviously useful or purposeful character, carrying with it an element of practical helpfulness to others, was accomplished with ease and practically without friction, largely it is believed upon the basis of an adaptation of what may be called the gang-boss principle. This principle is of common enough application in civil life. It bases in part upon the desire of most humans for an opportunity to display initiative and control, even if upon a limited scale.

In practice, all work within and without the wards was divided and subdivided into its component elements. There was very varied industrial talent among the patients, ranging all the way from the theatre and the law to civil engineering, practical construction work, metal work, and pick and shovel work.

The better men were appointed overseers on the larger jobs. Under them were foremen, each with a gang of two to six men. Frequently, a man might at any given time be the boss of one gang on a job in which he was expert, and yet might himself be taking orders from one or two other men on other jobs with regard to which their expert knowledge qualified them to act as foremen.

The various foremen were appointed by the officer in charge, and were told to pick their own assistants, up to the number assigned for the job.

Rarely, a little friction developed. In general, however, harmony prevailed and much work was well done. It was in fact done at a high standard of excellence. In this connection, there should be mentioned the mathematical perfection with which the rather complicated formal garden design was carried out by two engineers, and the accuracy with which the "indoor" baseball diamond was constructed by two practical baseball fans. All in all, it may be stated that this community spirit and method of home occupational work, set a standard for behavior and morale which received wide and favorable comment not only within the limits of the Hospital, but from visitors from the Surgeon-General's Office and elsewhere.

The visitors came perhaps to see the garden. (It was the show garden of the Hospital.) They frequently remained to see the athletic activities of the Convalescent Department, and to discover, as on the occasion of the Fourth of July party given by the wife of the officer in charge, where the morale came from and why most of the men were mentally cheerful in the face of physical misery.

In parenthesis, it may be permitted to mention that at the Fourth of July party, fourteen cakes, homemade and of large size, vanished. One boy disposed in rapid series, of nine big wedges of cake, and continued to look wistful and famished. Another patient (Plate 81-D), who, afraid of digestive disturbances, had to be commanded to eat a piece of light sponge cake even at the risk of immediate vomiting, remarked pathetically the following morning (after experiencing no ill effects), that he "didn't know cake was like that." These cakes were of pre-war standard of quality, with frosting inches thick. To obtain the extra sugar required for the frosting, it was necessary first to obtain the written authority of the Sugar Administrator for the District of Columbia.

WALTER REED GENERAL HOSPITAL

CONVALESCENT DEPARTMENT

1918

PLATE 78

Academic Work—Elementary
Reading, writing, arithmetic, etc.

PLATE 79

Academic Work—Advanced
Languages, engineering, law, business, etc.

WALTER REED GENERAL HOSPITAL

CONVALESCENT DEPARTMENT

1918

PLATE 80

Clearing the Garden
Prescribed outdoor work

PLATE 81

Shop Work—Indoor

PLATE 82

Shop Work—Outdoor

Even with the amount of physical occupation above indicated, it was found that many patients were exceedingly restless, and constantly looking for trouble. As soon therefore as the status of Occupational Therapy at the Walter Reed became sufficiently developed to make it possible and desirable, all patients on the Convalescent Service who were out of bed were required to go daily for two hours (1-3 P. M.) to "The School."

Plates Nos. 78, 79, 81 and 82 illustrate some of the activities at the "School," soon after it began to function. The patients in the photographs are almost without exception patients from the Convalescent Department. The wood and shop work, and the higher grades of academic work, were conducted within the School building. The elementary academic work was carried out in classes conducted upon the porches, and the practical automobile work took place outdoors under the trees.

The photographs themselves were made "for official use only" by the Military Intelligence Branch, General Staff, and it is with appreciation of the authority given for their present use that they are herewith reproduced. In the photographs there appear letters printed upon the shoulders of certain of the men. These letters identify the patients especially referred to in the text.

The "School" was an old deserted two-story frame building in a most uncertain state of repair. In fact, its condition was so precarious that at first only the piazzas were safe for actual use. The repair of floors, staircases, etc., provided, however, the best possible practical carpenter work for those men who desired such work. Shop work at first consisted only of automobile repairing, and since in the beginning no old automobiles were available, the writer in the earliest days of the School allowed the use of his own machine in practical demonstration work by the instructors (Plate 82).

No specific directions were given concerning what the patients should do. It was, however, obligatory that they should stay at the School for two hours. It was furthermore stated that the entire two hours could not be given to shop work, but that one hour must be devoted to some distinctly educational subject. For many patients, it was sufficient to give them an opportunity in order to have them at once busily occupied mentally.

Thus, one patient (Plate 79-B) immediately plunged into the study of certain advanced phases of corporation law work, in contin-

uance of studies interrupted by his entrance into the Army. Two other patients resumed special technical engineering studies.

A fourth patient (Plate 79-A) was of especial interest as indicating what can be accomplished in the way of raising the status in life of a patient during his enforced stay in hospital. This patient was a Swedish blacksmith from Michigan, of excellent physique and good mentality. He was slowly recovering from double pneumonia, endocarditis, acute rheumatism, and several other complications, any of which might have been disastrous to a less healthy subject. As soon as this patient had sufficiently recovered from rheumatism to make joint motions possible, he was started on simple hand work, followed by more exacting types of exercises for the arms and legs. When the stage of walking was reached, the patient was questioned with regard to his mental outlook. It appeared that he was an excellent blacksmith, and had no difficulty in duplicating anything which he could see. He was however wholly without experience in the more complicated technical matters such as the construction of and working from blueprints.

But within two weeks of the time of receiving his first instructions in blueprint work, this patient was being utilized as a draughtsman in the making of plans for one of the Government offices. Before the end of the first month of his instruction, the patient with obvious pride displayed to the writer a satisfactory working drawing of a typewriter foot attachment for the use of a patient who, having lost one arm, was being trained in hospital to run his typewriter with one foot and one hand.

Shortly after completing this drawing, and after constructing from it the actual foot-pedal attachment for the typewriter, the patient was returned home. Six weeks after his return home, the head nurse on his ward received from him an excellent gold bracelet watch, accompanied by a most appreciative note from the patient, thanking everybody for the interest taken in his welfare. This note stated that as a result of his knowledge of and experience in blueprint work, he had since his return home been able to take in, in a single month, an amount of money greater than he had ever taken in during any consecutive six months of his work previous to his entrance into the Army. For this improvement in his economic status, the pa-

tient gave full and entire credit to the instruction received in blueprint work while he was in the Hospital. Such real progress can hardly fail to gratify those responsible for it, almost to a degree equal to the gratification which might result from a successful application of more purely medical procedures.

On the other hand, in some cases the patients were resistant to the idea of occupational work and mental progress. If the Occupational Department reported that after a week or two of effort it had been impossible to interest such resistant patients, they were personally taken in charge by the writer. Although it occasionally required several days to bring about the desired result, it was without exception possible to stimulate some degree of active interest in educational work in every patient who passed through the Convalescent Department. This result was not however always arrived at without effort, as is instanced in the case of a rather tired, undersized, dreamy and anemic-looking young ex-railroad brakeman.

This boy (Plate 78-C) spent much of his leisure time curled up in a corner scribbling poor poetry on scrap paper. The Occupational Department had failed absolutely to interest him in anything but automobile shop work. In the course of conversation, the boy asked the writer if he might not devote all of his required two hours per day to shop work. He was told that he could not, but that if any change in his arrangements were desired, he would be given permission to spend two hours daily on academic work. This he declined. Two or three days later, it developed that his consuming ambition in life was to be a garage owner. Discussing the matter with him, it appeared that he had not thought sufficiently far ahead to appreciate that to be a garage owner, it would be necessary for him to be doing something else besides crawling around the floor in dirt and oil repairing automobiles. It was pointed out that he could hire men to do this work for him, but that if he aspired to own a good garage, he must be able to write good business letters and in general be efficient not so much in tinkering automobiles as in administrative office work. He suddenly saw the light, and for the remainder of his several weeks of stay in hospital his every waking moment was (with full permission) devoted to the making of an extraordinarily rapid degree of progress in elementary English and other purely academic subjects.

At least a portion of the aversion which this boy displayed toward devoting his time to purely school studies, traced to a reaction so frequently presenting in the other patients, as to be worthy of mention. On the average, these patients had when only 12-14 years of age, been forced to drop most if not all of their schooling, for the more immediately practical purpose of earning a living or aiding the family to earn a living. Therefore, as seen in hospital at about the average age of 25-27, these men had suffered from a complete interruption to school work lasting 10 or more years, during which the possibilities of further academic learning had perhaps been the furthest of all things removed from their daily contemplation or active thought. In fact, the pendulum had swung so far that most of these men considered ten years of absence from opportunities for schooling as prima facie evidence of the hopelessness of any attempt at resumption of interest in academic work. This point of view was in all cases gradually changed with such good effect that the patients under consideration were at the time of discharge taking active interest in elementary school studies. Most of them at the time of discharge even volunteered a firm determination to carry on their renewed academic work by means of attending night school once or twice a week, in the expectation that this increased knowledge would be a real factor in promoting their upward economic progress.

The reality of this change in viewpoint on the part of the individual patients, with its constant accompanying increase in outlook and mental enthusiasm for work, invariably seemed more than adequate compensation for any effort involved in the accomplishment of the desired result.

In April and May, 1918, Occupational work at the Walter Reed General Hospital, as later known, was certainly in its infancy. Its scope was limited, as far as the writer was able to observe, to only the more elementary and casual forms of handcraft work; furthermore, a considerable proportion of the volunteers then engaged in this work seemed to be more interested in amusing themselves, than in benefitting the patients. As a result, there was created a distinct amount of hostility toward further development of Occupational work, and it was not until nearly mid-summer, 1918, that Occupational Therapy at the Walter Reed got a fresh start under the direction of Major Baldwin.

Although Army Occupational Therapy, even in the summer of 1918, was as yet in the experimental stage, its value and some of its limitations were very clearly demonstrated by the work done by the Convalescent Department. It was for example clearly proven that it is not only undesirable but unfortunate, to attempt the development of such work in any hospital except upon a sufficiently broad scale to prevent a too unilateral focus upon any one aspect of Occupational Therapy. Furthermore, it was clearly proven that lack of elementary education was the fundamental reason why the majority of the patients were unable to progress beyond a limited point, in the acquiring of knowledge of the shop work or trade which they desired to follow. Patients would frequently progress rapidly in shop work up to a certain point, beyond which an educational lack absolutely prevented further advancement. This fact became so obvious in practice, that it greatly influenced the point of view of the writer after his transfer to the Office of the Surgeon-General, as Consultant to the Department of Physical Reconstruction.

Obviously, it is useless and a waste of money to provide expensive special equipment for a patient who is unable properly to utilize such equipment. This is by no means to deny the possible value of teaching a patient with only moderate mentality, a single shop operation such as cutting a thread for a screw or bolt of a given size, since a man with such definite, even if exceedingly limited knowledge, may be able to obtain and hold a position as against a man who has not even this small amount of technical information.

The equipment necessary for purely educational purposes is however infinitely cheaper and simpler; and any elementary educational information acquired by a patient may be turned by him in any desired direction during later life.

The Army itself, under instruction from its psychologists, soon realized and publicly stated that education, or the ability to acquire education rapidly, was the greatest single asset of the soldier in his eventual usefulness to the Army, since it enabled him to become rapidly useful in any one of a large number of different directions. This is of course equally true for civil life.

Summarized, experience at the Walter Reed indicated the positive value of such a Convalescent Department as was conducted within the hospital. In the conduct of this Department, the dietary,

medical, physical, and mental aspects of the care of the convalescent patient all proved to be of importance. In addition to general medical and physical care, the progress of the patients toward health was distinctly furthered by the utilization of facilities provided for mental work by the Occupational Department.

II

Notes on Convalescent Work in The U. S. Army*

(Continued)

IV—Convalescent Work: Detached Duty for the Division of Internal Medicine, S. G. O.

During November and December, 1918, the writer was for the greater part of the time on detached duty investigating the hospital care of chronic patients. Soon after being assigned to this duty, there was submitted by him to the Chief of the Division of Internal Medicine, S. G. O., the following memorandum:

The Chronic Invalid in the Army: Treatment

Lee (*Mil. Surgeon*, 1918, XLVII, 283) has directed attention to the value to the Army of care for little things, i. e., minor surgery, in decreasing the non-effective rate. He has referred to the advisability of concentrating superior surgeons on minor surgical cases. In some civil hospitals there has been an effort to put good rather than inexperienced men in the medical out-patient departments.

Army methods in acute medicine are reasonably satisfactory. The patient dies, or gets well and goes to duty. Present methods in chronic medicine are on the contrary a reproach to the Army medical administration. In this non-spectacular and intangible field of medicine, conditions exist through inertia which, if understood, would in civil life react unfavorably upon a civil hospital staff.

To prove the chaotic state of chronic medicine in the Army today, it is only necessary to point to the large numbers of cases remaining in the base hospitals two months or more, and to mention the fact that over 100,000 chronic patients are now awaiting disposition in our development battalions.

Treatment

Chronic patients divide into the following classes:

I. Fitting slowly but normally for full duty.

II. Disposition to be determined.

(a) Mild obvious organic lesions.

---

* Bryant: Boston Med. and Surg. Jour., 1925, cxciii, 499.

(b) Hyposthenics (blind lesions or congenital debility).
(c) Mild organic *plus* mild psychiatric lesions.
(d) Malingerers.

The treatment and disposition of these groups of patients is a fundamentally medical and *not* a primarily military problem. It is not only a medical problem, but it is a large medical problem which for its solution demands the attention of large medical men. It is not to be solved by the use of second rate men, or by the use of medical men of any calibre when in insufficient numbers, as at one camp recently visited where five surgeons were attempting to care for 4500 patients. The surgeon must be given unrestricted control of his patients, and then be called to account should he fail to produce results in the form of reasonably rapid, adequate dispositions.

For purposes of treatment, the training battalion should be to the cantonment what the convalescent department should be to the base or general hospital. In both cases there are the following functions to be discharged:

I. Fitting for full duty.
II. Evaluation and disposition of the hyposthenics or unfit.
III. Detection of malingering.

In addition, there should be in both these agencies, subdepartments wherein the theory and practice of high grade differential diagnosis can be brought to bear upon the "resistant" cases.

The following methods of attack are based upon experience:

I. Maximum personal observation, direct and indirect.
II. Adequate medical investigation.
III. Controlled diet.
IV. Physical development.
  (a) Pleasurable; games, etc.
  (b) Disciplinary; drill, and useful or purposeful chores.
V. Mental occupation (educational).
VI. Recreation.

John Bryant,
Major M. C. U. S. A.

Nov. 15, 1918.

The results of the writer's investigations into the care being received by chronic patients in Army hospitals, were summarized in the following Report:

REPORT TO THE SURGEON GENERAL, ON THE CONVALESCENT SITUATION: CAMPS A, B, AND C; AND GENERAL HOSPITAL D

At the four hospitals visited, there was a total of 4115 patients. Of these, 3648 had been in hospital less than two months, and further consideration of them is dismissed.

But 467 patients had been in hospital more than two months,—some of them nine, ten, and twelve months. Their combined lost time totals the very considerable period of approximately 42,484 days, or about 116 years, at an approximate cost to the government of $85,000.00 even at the low estimate of $2.00 per day maintenance. The present daily cost of these chronic patients in four hospitals is doubtless $1000.00 per day. Assuming that these hospitals are representative of conditions throughout the country, on the basis of 100 hospitals each containing 100 chronics, there would be a total of 2800 years of lost time at an expense of $2,375,000.00, and a present total daily cost of about $25,000.00 to the government.

In view of the very considerable size of the problem, it is certainly desirable, if possible, to adopt measures looking toward its reduction, provided it can be shown that such measures will not react unfavorably upon the medical care of the chronic patients under consideration.

Conditions at the different hospitals vary greatly. Thus at Camp C, only 7.3% of patients had been in hospital more than two months, whereas at Camp A, with presumably the same general class of material, there were three times this percentage of chronics, or 19.6%. At Camp B and General Hospital D, the figures were respectively 11.6% and 8.5%.

The average percentage for the four hospitals is about 11.0%, but since at Camp C the figure is only 7.3% and at General Hospital D,—which being a general hospital might be allowed a higher rate,—the incidence of chronics is only 8.5%, it is perhaps fair to say that in general the Chronics should not form much in excess of 10.0% of the total hospital population.

Turning again to Camp A, it is obvious that there is an excess of chronics of about 100.0%; in actual numbers, 83 patients. Here is a presumable waste of public funds, of about $200.00 per day, or $6000.00 per month.

Responsibility for failure to expedite the departure of chronic patients descends through the Commanding Officer

to the Chiefs of Services, who must bear the immediate blame or credit for the condition of their services and the efficiency of their subordinates.

By grouping the patients under the general headings medical and surgical, and assuming, as shown by the totals for the four hospitals of 246 medical and 221 surgical cases, that the chronics should be rather evenly divided between medical and surgical, responsibility within a hospital is readily fixed.

Thus at Camp A, medical cases were in excess by 30.0%, at Camp B, surgical cases were in excess by 100.0%, at Camp C medical cases were in excess by about 100.0%, whereas at General Hospital D, the chronic patients were rather evenly divided between the medical and surgical services. These excesses are in all cases conceivably unavoidable, but this method of study at least focuses attention upon the location of the chronics by services.

In general, it is believed, on the basis of investigation and review of clinical records, that the following statements are justifiable:

1. The large number of chronics in Army hospitals is not unavoidable.
2. Their presence is in the interest neither of the patient nor the government.
3. The fundamental cause is clinical neglect.
4. The neglect is due to lack of an adequate follow-up system.
5. To be effective, such a system must include clinical and administrative details and promote publicity and competition.

Should it be objected that additional work is involved by the proposed follow-up system, it may be replied that the present chronic situation is a fact not a theory, that its existence does not reflect credit upon the medical services, and that it continues to exist precisely for lack of application of adequate measures to prevent its existence or continuance.

Furthermore, there is no logic in a situation or system which lauds the saving of pennies from the skimmings of kitchen grease-traps, as at Camp C, while permitting the dollars to roll out the front door in the form of maintenance in hospital, to their detriment, of imperfectly diagnosed patients.

Factors Affecting Retention of Chronics in Hospital

Failure to expedite chronics in hospital may be discussed under two headings:

A. Extra-mural.
B. Intra-mural.

A. For extra-mural factors, the hospital proper is not to blame. The fault is administrative and beyond and without the hospital control. For example, tuberculous patients are now being held in all hospitals visited, for want of instructions concerning disposition. Again, a lack of precise information exists at the hospitals as to the interrelation of Base and General Hospitals, Development Battalions and Convalescent Centres, with regard to the disposition of the more chronic patients.

As a third example may be mentioned the fact that at General Hospital D there were twenty-four cases which had been awaiting the return of S. C. D. papers from the department of the East for more than two weeks; three of these cases have been waiting over two months.

B. The principal factors in the retention of chronics in hospital are, however, naturally those operative within the hospital itself. The more important of these intra-mural causes of delay may be summed up as follows:

1. Inadequate medical personnel.
2. Instability of medical personnel.
3. Incomplete medical analysis of the cases.
4. Failure to follow up proven organic defects.
5. Failure to institute when possible, simultaneous treatment for coexistent defects.
6. Inadequate use of available facilities for expert advice.
7. Lack of authoritative determination of relative values of possible coexistent organic and psychic or mental defects.
8. Progress notes absent or of little value.
9. Failure of interest as a patient becomes chronic.
10. Inadequate administrative oversight of the medical work of the ward surgeons.
11. Paper work relied upon to substitute for brains.
12. Incomplete or absent diagnoses and medical neglect of chronic patients.

Consideration of the causes operative in the production of a high percentage of chronics in hospital does not indicate that a reduction in the total stay of these patients in hospital would be detrimental. On the contrary, the indication is definite that the efficiency of a hospital as a whole, and consequently of its individual services, may be judged rather accurately by the margin by which its chronics decrease below 10% of its total population.

Conversely, with an increasing percentage of chronics above the standard of 10%, the indication becomes increasingly clear that there may be actual neglect of the chronic and therefore more difficult patients.

Recommendations for Improvement of the Convalescent Situation

1. The ratio of personnel to patients should not fall below 1:30.

It is inevitable that whenever ward surgeons are caring for sixty to eighty patients, the chronics will be neglected.

2. The medical personnel should not be allowed, when avoidable, to change stations more often than once every two months.

Rapid changes are synonymous with decreased efficiency or neglect, on account of a lack of feeling of responsibility.

3. Elimination of medical personnel with low ratings.

The chronic problem will become increasingly more important with the return to civil life of the more easily recovering acute cases.

4. Cases receiving other disposition than full duty should be reviewed before leaving hospital, to guard against the passing on of uncompleted medical problems to other destinations. Transfer to another organization is not in itself sufficient to promote cure.

5. Dietary supervision for chronics, in the direction of decreased total intake and restriction of the usual high meat and other protein content of the diet, as practiced with satisfaction at the Walter Reed General Hospital.

6. The appointment, as consultants to geographic or other groups of hospitals, of mature and highly trained men who will be responsible for the absence of neglect of chronic cases in hospital. These men should be of the *mental* grade of Lieutenant-Colonel.

7. Initiation of an administrative follow-up planned to promote publicity and stimulate competition in the skillful care of chronics.

8. Clinical service reorganization.

9. Service appointments, as associate chief, or convalescent officers, of the ablest men available on given services, these officers to be immediately responsible for the care of the chronics.

10. Intensive use, for purposes of physical improvement and mental education, of all facilities available to the convalescent service in a given hospital.

Detailed Consideration of Recommendations Nos. 7, 8, 9, and 10

7. Administrative follow-up.

A. Intra-mural, all to originate in record office.

(a) Index cards in duplicate, one to desk file, chief of service, and one to file for commanding officer; cards in three colors.

1. White on admission, all patients.
2. Blue, thirty days, all patients.
3. Pink, sixty days, all patients.

Cards to have indicators, cards one and two showing time in weeks and card three showing months in hospital.

A clerk to be detailed to this work, to keep files up to date, the same clerk to prepare the weekly schedules for the hospital.

Weekly progress notes to be made on reverse side of service cards in presence of chief of service or convalescent officer, by ward surgeons in immediate charge of cases.

File of commanding officer to show all patients in hospital, alphabetically, with time shown by colors of cards and indicators.

(b) Blue thirty day notification cards to be sent to wards, to remain permanently attached in front of the white sheets of clinical histories.

Weekly notation of length of stay in hospital to be made on these cards and signed by ward surgeons.

(c) Pink sixty day cards, same use as previous blue card, to be attached when necessary in front of blue cards, on history sheets.

(d) Preparation and distribution weekly by record office of a schedule of chronics in hospital, indicating their location by services and their duration of stay by weeks and months; five copies on pink paper to

1. Chief, medical service.
2. Chief, surgical service.
3. Commanding officer.
4. Record office for file.
5. Hospital bulletin board (to remain posted one week).
6. Twice monthy a copy forwarded to S. G. O.

B. Extra-mural.

A monthly consolidated schedule showing chronics in all hospitals, to be compiled by the S. G. O., printed on pink paper and distributed to all hospitals. This schedule to remain posted on bulletin boards for one month, in the same manner as the present sick reports circulated from the S. G. O.

Opportunity is thus provided for hospitals to rate comparatively high or low with regard to their percentage of chronics in hospital.

C. The use of distinctive colors is a well-recognized visual aid to rapid classification. In proceeding from white to blue and pink according to time in hospital, some attempt is made to offset the present manner in which a patient becomes progressively neglected according to the duration of his stay in hospital.

8. Clinical service organization.

(a) Acute wards (one to four weeks).
(b) Sub-acute, or intermediate wards (four to eight weeks).
(c) Convalescent (eight weeks and over).

To prevent clinical stagnation, an arbitrary time should be established, at which, as between three-four weeks and again between seven-eight weeks, a given patient should be transferred from (a) to (b) and to (c), to the care of ward surgeons especially chosen for their progressively increasing ability as differential diagnosticians.

With each change of station, the Chief should insist upon seeing evidence of a complete diagnostic review of the case by the new ward surgeon. A medical routine successfully employed for this purpose at the W. R. G. H. is attached.

The ward surgeon originally receiving a case in the acute stage must inevitably lose interest in this case by the end of three-four weeks, when the older cases must to some extent be crowded aside by the routine new admission of acute cases. It is therefore logical to divide recovery as above indicated into three stages, acute, intermediate and convalescent, separating these periods arbitrarily at four and eight weeks primarily on a time basis, segregating only secondarily by disease and putting thoroughly competent ward surgeons in charge of each department.

Such a progressive change of location would on the one hand inevitably do much to relieve the monotony of the patient by providing new environment. On the other hand, the continually new-coming patients would do much to stimulate and maintain interest on the part of the ward surgeons who would so-to-speak be specializing in these differing and equally important even if commonly neglected stages of recovery and convalescence.

9. Convalescent appointments.

The importance of the convalescent problem demands definite recognition, by the appointment of the ablest avail-

able man on a given service, as associate chief or officer in charge of convalescents. This officer must be mature, and of the rank of Major or certainly not less than Captain, in view of the difficulty and responsibility of his task.

Should objection be raised, it can easily be shown, wholly aside from moral or humanitarian considerations, that it is a sound financial procedure to appoint both a surgical and a medical major, at a total daily expense of not much in excess of $20.00, in order to eliminate a problem costing today at Camp A, for example, a probably unnecessary $200.00 per day. Even at Camp C, with its low incidence of chronics, there would be a financial gain if at an expense of $20.00 per day the present number of chronics (sixty-five) could be reduced by one-half.

Since the time of the Chief of Service is fully occupied by administrative detail and the care of the acute cases, this associate chief should be personally responsible, for the clinical records of his chronic cases, with regard to their value and completeness.

Probably eighty per cent. of all acute cases will leave hospital without effort upon the part of the staff. Consequently it is upon the remaining twenty per cent. which do not leave as per schedule, that effort must be concentrated. These cases will provide sufficiently serious occupation for the convalescent officer, and in proportion to his personal skill as a differential diagnostician, these difficult cases will begin to leave hospital.

10. Convalescent service routine.

Assuming a reorganization of the medical personnel for more efficient convalescent work, there remains to be mentioned the importance, which will increase with the progress of convalescence, of adequate and continuous mental and bodily occupation for the continuing progress of the patient.

A schedule of muscular work, and of mental occupation, should be arranged, which, aside from the time actually devoted to medical treatment, should leave the patient a minimum of free time during normal working hours, but which on the other hand may leave him completely free between supper and bed time. Such a schedule, attached, was used with success at the Walter Reed General Hospital.

Out of this daily schedule, at least two hours should be set aside for educational procedures such as grammar school or trade studies, grouped under the heading of mental occupation.

Given two patients both sluggish or stationary medically, the one unoccupied will retrogress. But the occupied patient will at least progress mentally through having education injected as a by-product of his active rather than pas-

sive hospital life, to his future mental and present psychic satisfaction.

From previous personal experience with convalescents, it cannot be too emphatically stated that the additional effort involved on the part of the ward surgeon in the carrying out of the above procedures is more than compensated for by the visible progress and lasting gratitude of the happily occupied patients.

*Exhibits attached as follows:

A. Dietary regime for all Convalescent patients, W. R. G. H.
B. Service schedule of patients in hospital (formerly in use W. R. G. H.).
C. Consolidated hospital schedule (S. G. O. type) (formerly in use W. R. G. H.).
D. Pink sixty day card for clinical records (form fifty-two, G. H. D.).
E. Service index cards (formerly in use W. R. G. H. (one), and (two) form 106 G. H. D.).
F. Diagnostic review routine (formerly in use W. R. G. H.).
G. Convalescent Service daily routine (formerly in use W. R. G. H.).

Attention is drawn to the fact that none of the above exhibits are theoretical, all having been in actual use.

John Bryant,
Major, M. C. U. S. A.

December 4, 1918.

In December, 1918, the attitude of the Division of Internal Medicine, S. G. O. was that, although it would be exceedingly desirable to introduce more active hospital Convalescent work into the Army, there were not available a sufficient number of adequately trained men, capable of conducting such hospital Convalescent Departments as it was proposed to establish, to provide even one such trained man for each general hospital in this country. The need of such work was freely admitted, but for want of an adequately trained personnel its fulfillment was considered impossible.

V—Convalescent Work With the Division of Physical Reconstruction, Surgeon-General's Office

Early in January, 1919, the writer was transferred from the Walter Reed General Hospital to the Surgeon-General's Office, as Field Consultant to the Division of Physical Reconstruction. During the remainder of his service in the Army, until his discharge on May twenty-sixth, 1919, he was practically the only officer attached to the

* Exhibits omitted to save space.

Division of Physical Reconstruction, S. G. O., who had had actual personal experience in conducting Convalescent Work in a base or general hospital. The paucity of such actual clinical Army experience on the part of some of those controlling the policies of the Division of Physical Reconstruction, may have had something to do with a rapid series of somewhat conflicting orders or circular letters emanating at one stage of the work, from the office of this Division of the S. G. O.

In the field, there had been complaint of difficulty in understanding clearly the flood of directions issued by the Division of Physical Reconstruction. There was at first a distinct hostility toward active coöperation with the Department of Physical Reconstruction. The hostility of the Commanding Officers in most cases depended upon lack of information; they were in general very ready to aid in carrying out policies which looked helpful, once they were clearly presented. The ward surgeons, on the other hand, were often definitely resistant to doing anything favoring the Department of Physical Reconstruction, on the basis that the War was over and that in consequence they were not proposing to do additional work beyond the minimum required, for any reason whatsoever.

The first work necessary before the treatment of patients could be adequately discussed, was, therefore, enlistment of active coöperation on the part of the hospital staffs. In visiting one hospital after another during the Spring of 1919, and in returning over the same route (after being definitely assigned to the hospitals in the Northeastern section of the country), it was interesting to note the change in point of view of the hospital staffs. At first resistant or indifferent, there was gradually forced upon these staffs, by what they actually saw and experienced, a realization of the importance and value to them of an adequate utilization of the policies recommended and the facilities provided by the Division of Physical Reconstruction, even with their staff problems viewed purely from the utilitarian point of view of increased ease of conduct of their hospitals.

The general policy upon which the Division of Physical Reconstruction was proceeding, may be indicated by the following Extract:

POLICY APPROVED BY THE SECRETARY OF WAR FOR THE PHYSICAL RECONSTRUCTION OF DISABLED SOLDIERS

Extract

(b) Physical Reconstruction may be defined as the most complete form of medical and surgical treatment carried to the point where maximum functional restoration, men-

> tal and physical, has been secured. To secure this result the use of work, mental and manual, will be required during the convalescent period. This therapeutic measure, in addition to aiding greatly in shortening the convalescent period, retains or arouses mental activities, preventing 'hospitalization,' and enables the patient to be returned to service or civil life with the full realization that he can work in his handicapped state, and with habits of industry much encouraged if not firmly formed.

The above extract is from a letter from Lt. Col. C. A. Wood, M. C., to the Chief of the Division of Physical Reconstruction, dated June 29, 1918, the subject of which was:

> "Report on the activities of the Division of Special Hospitals and Reconstruction, now the Division of Physical Reconstruction, August 27, 1917, to June 30, 1918."

The plan of organization upon which the Department of Physical Reconstruction was proceeding, may be indicated by the following Extract from General Orders No. 55, September 19, 1918, W. R. G. H.

> The following Departments are tentatively organized as adjuncts to the above services. [The Medical Services had been organized under three Chiefs of Services; a Chief of the Surgical Service, a Chief of the Medical Service, and a Chief of the Laboratory Service, each with appropriate sub-sections.]
>
> I. Convalescent Department.
> II. Department of Occupational Therapy.
> III. Department of Physiotherapy.
>
> The Head of each Department will be designated as "The Director of the ——— Department," and will operate in coördination with the Chiefs of Services. In administrative matters, Directors of Departments will report directly to the Commanding Officer of the hospital.
>
> By Order of Colonel Schreiner.
> H. K. Richardson,
> Captain, M. C.
> Adjutant.

The above Extract is quoted to indicate that even at this early date it was felt to be essential that Occupational Therapy and Physiotherapy should be rated as independent Departments, responsible not to the Chiefs of other Services, but directly to the Commanding Officers.

In practice, there was little difficulty in recognizing the independent status of Occupational Therapy, as it was for the most part not a strictly medical activity. The status of Physiotherapy was however much less clear, and at many hospitals it was at first conducted under the auspices of the Orthopedic Department. This proved to be undesirable, and was the cause of almost constant friction until the Departments of Physiotherapy in the various hospitals were placed under individual responsibility.

The opinion of the Division of Physical Reconstruction concerning this matter is indicated in the first two paragraphs of a letter from the Surgeon-General of the Army to the Commanding Officers of all General and Base Hospitals, under date of December twenty-seventh, 1918, as follows:

> 1. The Director of Physiotherapy is assigned to and works under the direction of the Commanding Officer of the Base or General Hospital.
> 2. The Department of Physiotherapy is for the use of all departments in the hospital and is not attached to, nor is it under the direction of any one department."

As late as May, 1919, it was necessary for the writer to unravel the status of Physiotherapy at one Base Hospital, where the Orthopedist who had assumed control of the Physiotherapeutic activities at the Hospital, seemed very reluctant to give up his control. This specific instance is referred to on account of the result obtained by establishing Physiotherapy on an independent basis. This result was an increase of nearly 200% in the utilization of the Department of Physiotherapy by the other Hospital services, within a period of two weeks. There was also an accompaniment of greatly improved results, due to a better quality of physiotherapeutic work upon the patients.

In general, the Division of Physical Reconstruction was concerned with patients: (a), in hospital proper; and (b), in Development Battalions or Convalescent Camps. The present review is not concerned with work in the Convalescent Camps. In the Hospitals, so-called Reconstruction Work was divided into two Sections: Occupational Therapy (including Vocational and Curative Therapy), and Physiotherapy.

The degree of personal control which it was possible to exert in the carrying out of Reconstruction policies in the Northeastern hospital area during the spring of 1919, may be suggested by the follow-

ing incident. In the face of strenuous political opposition, one hospital was, as the result of a single inspection and within twenty-four hours of the filing of an adverse report by the writer, promptly and permanently closed by direct order of the Secretary of War.

Occupational Therapy

In the course of the progress and growth of the Occupational Section, it was divided into the five sub-sections of General, Handcraft, Academic, Technical and Recreational Work. At the individual hospitals, these sub-sections were all under control of the Directors of Occupational Therapy. An idea of the comparative growth and importance of the sections of Occupational Therapy may be obtained from a consideration of the tables which follow in the Statistical Review. These tables are based upon the official monthly Educational Service Reports of the Department of Physical Reconstruction.

The peak load of patients being returned from France was reached in March, 1919, with a maximum of 74,946, after which time there was a steady falling off in the total Army hospital population.

The maximum of total enrollments in Occupational Therapy, was recorded two months later, in May, 1919. The tables indicate that at this time, out of a total Hospital population of 62,964 patients, 30,096 or about 48% were engaged in occupational work. The total enrollments in May reached the figure 56,850, by which is indicated that each patient engaged in Occupational Therapy work was enrolled in an average of 1.8 subjects. Some of these patients were enrolled in only one subject. On the other hand, many patients were enrolled in as high as five and six different subjects. The total enrollments (56,850) for May, were divided between the work in the wards, and the work at the Shop and School as follows: Ward, 25,602; Shop and School, 31,248. Ward enrollments were divided into Crafts (20,641) and Academic (4961). Shop and School enrollments were divided into General (8056), Technical (15,043), and Recreational (8149).

The actual enrollments reflect in large measure the attitude of the authorities toward the relative merits of the various branches of Occupational work. During the early Spring of 1919, attention had been focused upon the importance of Handcraft work in the wards. This was also true of the Technical or Shop work, for the equipment in which, very large amounts of money were then being expended by the Government.

In connection with the total technical enrollments, it should be noted that many patients considered enrollment in Shop courses an excellent method of avoiding work of all kinds. This was particularly true of automobile work, enrollments in which in summer, were more often than not utilized as an excuse for smoking out of doors.

In contrast to the enrollments in Handcraft and Technical work, in which enrollments rose rapidly to a high point and fell almost equally rapidly, one may note the curves* of the total enrollments in Recreational and Academic work. The Recreational work was always in the form of prescribed exercise.

Academic work at all times interested the small percentage of patients anxious to improve their status in life. The lasting and fundamental value of Academic work was however, not sufficiently widely recognized until February, 1919. Occupational work in the wards was even then being devoted too exclusively to the more showy and more easily appreciated Handcraft work.

One of the special objectives of the writer, therefore, and for reasons indicated in the previously published portion of this review *(Boston Med. and Surg. Jour., May 14, 1925)*, was to focus attention constantly upon the value of Academic work. It is believed that the steady rise in the number of enrollments in Academic work between January and June, 1919, was perhaps to no inconsiderable degree a reflection of the effort expended by the writer in thus focusing the attention of the Division of Physical Reconstruction upon the permanent value of such Academic work.

Incidentally, the Chief Academic Aide in Washington once remarked that it was unnecessary for the writer to give her the itinerary of his field trips; it was self evident, she said, from the stream of requests for Academic Aides which always arrived in Washington, from the hospitals he had most recently visited.

One instance of the writer's practical interest in the promotion of this Ward Academic work at a Base Hospital, may be mentioned. At this hospital, there were large numbers of slowly recovering osteomyelitis cases, which were benefiting greatly by the resources of Physiotherapy. The Occupational Department there, was deploring the fact that it was impossible to get hold of the men just able to leave the wards on crutches. At the same time, it was neglecting the patients unable to leave the wards, or providing them only with elementary Handcraft work. At the suggestion of the writer, special at-

* Tables I-VIII, pages 164, 165 and 166.

tention thereafter was devoted not to the ambulant patients, but to those physically unable to leave the wards. Furthermore, special attention was devoted to the possibility of interesting these ward patients in strictly Academic work. The result was that within a few weeks, over 400 ward patients in this hospital had enrolled in worthwhile Academic work.

Of especial significance, is the fact that when offered equal opportunity, not one of these 400 patients elected Handcraft work. The choice had been for Handcraft versus idleness. The choice was unanimously for worth-while Academic work of lasting value, as against Handcraft work.

At the time, this total of 400 student-patients was a larger actual total Academic enrollment than had been reported for any other Army hospital in the country. Yet, at this Base Hospital there were then in all scarcely a thousand patients, as against for example, a total of approximately 3000 patients at one of the large General Hospitals.

One valuable and constructive feature of the purely Academic work, was the amount of time devoted to so-called Americanization courses. In every hospital, a varying proportion of the patients were being qualified for final citizenship papers as a direct result of the work being done by the Academic sections of the Occupational Department. In most hospitals, the standard in this work was kept very high, and patients were refused their papers until they had acquired a reasonable degree of familiarity with the English language, the Constitution, and the other subjects required for the completion of the Americanization courses. The withholding of the final citizenship papers seemed to act as a powerful stimulus in persuading many of these otherwise somewhat indifferent student-patients, to complete the prescribed work of the Americanization courses in a satisfactory manner before leaving hospital.

In almost every hospital visited, there were a few patients who, through the opportunities offered by the Occupational Department for the cultivation of inherent artistic ability, and well within the length of stay necessitated by the actual medical treatment, were raised suddenly from a laboring to an artisan status. Such former manual workers were enabled, by effective utilization of the facilities provided, to accept remunerative positions for poster work or even higher forms of creative art work, immediately upon discharge from the Army.

The question of the degree to which patients with tuberculosis can benefit from Occupational Therapy, received attention at the various hospitals for the tubercular patients. Opposing points of view upon this matter were well illustrated by the work being conducted at two special hospitals. At Hospital A, there was an excellent medical staff. Occupational work here was begun early, at a time when the focus of the Department of Physical Reconstruction was largely upon Handcraft work. The result was that when this hospital was first visited by the writer, many other constructive forms of Occupational Therapy were being neglected in favor of Handcraft work.

This state of affairs was in marked contrast to the very practical line of Occupational work being conducted at Hospital B. At this latter hospital, the medical staff was for a time unfortunately rather weak. The Occupational Director was on the other hand very able and progressive. He found it necessary, in order to protect himself, to institute a considerable amount of medical supervisory work which was recorded by his own staff. This anomaly was in the course of time corrected, and thereafter the course of development of the Occupational Department at Hospital B was even more rapid than it had previously been. The Director here was intensely interested in real education, and the result was obvious in a walk through the wards. Most of the bed patients in this hospital were doing constructive work, either in languages or mathematics. Consequently, the visitor received from the patients an unusual and vivid impression of contented activity. The contrast between the character of the Occupational work in progress at Hospital B, and that being done at Hospital A, was brought to the attention of the authorities at Hospital A; the obvious result was that there soon developed a satisfactory increase in the amount of worthwhile educational work being conducted at Hospital A.

A patient seen in the Department of Physiotherapy at Camp B well illustrates the degree to which absorption in constructive mental work can to advantage be carried, in the care of a convalescent patient; and this, not only without interfering with, but with actual benefit to the more purely medical activities. The patient in question was an Italian of about twenty-five years of age; he had a long and serious flesh wound of the right arm which had resulted in a considerable amount of contracture and loss of motion at the elbow. This patient, when seen, was lying on a table in the Physiotherapy room,

reclining partly on his left side. His right hand and arm were behind him, and his wound was being massaged by an Aide. The patient was paying not the slightest attention to his right arm or to the conceivably painful manipulations of his elbow. He was devoting all his attention to reading from a book held in his left hand. This book proved to be an elementary English reader. It would be difficult to deny that this patient was, when seen, in a more favorable mental state for physical recovery, than if he had been mentally unoccupied otherwise than in worrying about his wound.

Physiotherapy

The great value of Physiotherapy in the treatment of many types of chronic cases, both medical and surgical, was for the most part unappreciated in this country until it had been clearly demonstrated by results in the various Army hospitals. After these results began to be recognized, there was a rapidly increasing demand for better utilization of the facilities provided by the Section of Physiotherapy. There followed not only improvement in the condition of the patients, but a speeding up in their departure from hospital. This was especially true of the chronic bone and nerve cases, the cases with contracture of muscles, and the cases with that relative fixation of joints which so often resulted from a too prolonged use of plaster casts.

In fact, when, because of shortage of highly trained personnel, certain hospitals were selected to receive the first of the neuro-surgical and fracture cases, the Chief of this Division, under the advice of the Surgeon-General, made the determining factor in such selection, the extent, strength, and equipment of the Department of Physiotherapy at the hospital under consideration. Evidence accumulated to indicate that pre- and post-operative physiotherapeutic treatment not infrequently determined the attainment of maximum functional improvement and anatomic cure.

A Department of Physiotherapy was eventually established as one of the essential departments, in each of the 45 hospitals designated to function in Physical Reconstruction. In these 45 hospitals, up to and including October 6, 1919, an impressive series of 63,693 cases had been treated by physical measures. These 63,693 cases had received a total of 2,481,615 treatments.

The results were not infrequently surprising. Not only was the duration of disability markedly shortened (a factor of great economic

value in civil industrial cases), but many supposedly hopeless cases recovered maximum function; these were discharged able to make their own way in the world, and under only minimum handicap.

Accumulating evidence of this sort became so convincing, that Dr. Frank Billings, former Chief of the Division of Physical Reconstruction, stated at the annual meeting of the American Medical Association at Atlantic City in 1920, that the results of Physiotherapy had been such, that in his opinion a well equipped Department of Physiotherapy was just as essential to a civil hospital, as its operating room.

In practice, the treatments given in a Department of Physiotherapy were grouped under the following five classes:

1. Hydrotherapy.
2. Electrotherapy.
3. Massage.
4. Mechano-therapeutic.
5. Medical or re-educational exercise section.

No mention of the work of the Section of Physiotherapy could be in any degree adequate without reference to the remarkably and universally high quality of the Reconstruction Aides to whom fell the great proportion of the real work of the Section of Physiotherapy.

The qualifications for appointment of these Aides were exceedingly rigid. Consequently, a very high standard was established, the majority of the Aides being either graduates of normal schools of physical education, or college graduates majoring in physical education. In addition to this, all had had special intensive training varying from six weeks to three months, in certain colleges and schools. A further specialized intensive course was given by Harvard University to eighty-five of the best equipped Aides. Besides these requirements an Aide was required to submit:

1. Satisfactory proof as to her moral character and standing in the community.
2. Successful passing of a physical examination made by some member of the Medical Corps.
3. The passing of a clinical and professional examination before a judge selected by the Medical Corps or a competent civilian practitioner.
4. Satisfying an interviewer, (generally a woman selected for special qualifications in this line), as to personality, general fitness for the work, general appearance, character of voice, etc.

5. Three recommendations or three references.
6. An unmounted photograph.
7. An application blank in which was stated her educational and professional qualifications, etc.

After considering all of the above, a final selection was made.

The success which these Aides attained, both from a professional standpoint and from the standpoint of personality, justified every care taken in their selection. In all, eight hundred such Aides were in the service.

It was intended that no reconstruction Aide in Physiotherapy should average more than fifteen cases daily; but whenever emergencies developed, without exception these Aides cheerfully carried even double this amount of work, and carried it with a degree of cheerfulness which visibly uplifted their patients.

Social Service Work

What might be called the Social Service work in the Army, was for the most part conducted by the Red Cross and allied associations. There is no doubt that all this work did much to promote the peace of mind of the patients, thereby hastening in proportion to its successful application, the discharge from hospital of the patients who had benefited by such service.

Coördination and Liaison Work

By the summer of 1919, it had become obvious to the Commanding Officers of the various hospitals, that there was often an insufficient coördination between the activities of the Department of Physical Reconstruction, and those of the more purely medical services in the hospitals. To avoid the occurrence of such breaks in continuity between the functioning of the medical services and the functioning of the more or less independent Departments of Occupational Therapy and Physiotherapy, progressive Commanding Officers appointed liaison officers between the Reconstruction and Medical services. Thus, the Commanding Officer of one large General Hospital thought this liaison position sufficiently important, so that he detailed to it a regular officer of the grade of lieutenant-colonel, one who had himself previously acted as the very efficient Commanding Officer of a Base Hospital.

III

Notes on Convalescent Work in The U. S. Army*

(Concluded)

VI—Statistical Review

On reflection, it will be obvious that its inclusive character and the great numbers of patients coming under its influence, placed the Division of Physical Reconstruction in a position unique in the Army care of hospital patients.

Other Divisions, as the Medical and Surgical, or their sections, as the Neuropsychiatric and the Orthopedic, came into contact only with those patients classified as belonging under their supervision. The Division of Physical Reconstruction alone, came in contact with patients from all the Medical and Surgical Divisions in all the active Army hospitals in this country.

Consequently, it would seem incumbent upon those who would see medicine advance, to pause long enough to pass in careful review some of the findings based upon the enormous total of experience accumulated by the Division of Physical Reconstruction, during the progress of its work for the promotion of better convalescent care for both medical and surgical patients. This accumulated experience points in a direction definitely confirming the previous personal experience and prophecy of the writer, for of all the work conducted by the Occupational Department, that which best survived the test of clinical application was the Academic work in the wards.

In other words, Army experience, on a scale seldom if ever before approached, has pointed the way to a practical and beneficial system of convalescent care,—one which leads with certainty to maximum mental and physical improvement of the convalescent patient.

With the trail so clearly blazed, it is now obviously up to our civil hospital boards to combine with civil educational boards, in an effort to duplicate in their care of patients in civil life, some at least

* Bryant: Boston Med. and Surg. Jour., 1925, cxcii, 557.

of the notable advances resulting from Army experience in the care of convalescence. Such civil-life patients should of course convalesce, not in city hospitals at high cost, but in economical and well organized country convalescent institutions, equipped to duplicate the results accomplished for patients in the Army by the Division of Physical Reconstruction.

It would indeed require a mental bolshevik to wave aside, as useless or unimportant, conclusions based upon Army work carried out over a period of one and one-half years, covering a total of 519,682 Occupational Enrollments, and with a total of 273,243 patients coming under observation within the specified period of one and one-half years.

The impressive size and scope of the Occupational and Educational work carried out under the direction of the Division of Physical Reconstruction may at least be suggested by the Extracts which follow. They are taken from the routine Educational Service reports of this Division, for the months of March and May, 1919. The Tables (six) are compiled from the figures in the Educational Service Reports.

The Educational Staff itself reached maximum numbers (2,385) in May, 1919, the month of the peak load of Educational work. The size and the distribution of its personnel at this time are indicated in Extract 1.

In addition to hospitals not indicated on this list in Extract 1, as Fox Hills, the writer in the course of his duty as Consultant, repeatedly inspected and reported upon fifteen of the total of forty hospitals given in the list. Included in these fifteen (asterisked*) hospitals personally visited, were the second and third largest and most important of the forty-five hospitals functioning in Educational work. At the fifteen hospitals visited, there came under the observation of the writer, 874 or about one-third of the total of 2,385 persons constituting the Educational Staff personnel.

EXTRACT 1

Staff

The Educational Staff for May (2,385) shows a slight increase (23) over that for April (2,362). Excluding duplicates, the figures for the Educational Staff for May are as follows:

Commissioned Officers	252
Non-Commissioned Officers	509
Enlisted Men	241
Reconstruction Aides	1,278
Other Civilian Employees	
Men	78
Women	31
Total	2,389

Following chart shows the distribution of the Educational Service Staff in the various hospitals during May:

Hospital	Staff
*Walter Reed General Hospital	138
Letterman General Hospital	107
Ft. Bayard	65
*No. 2 Ft. McHenry	80
*No. 3 Colonia	112
No. 6 Ft. McPherson	49
*No. 7 Roland Park	36
*No. 8 Otisville	49
*No. 9 Lakewood	60
*No. 10 Boston	57
*No. 11 Cape May	32
*No. 16 New Haven	46
No. 19 Oteen	59
No. 20 Whipple Barracks	32
No. 21 Denver	68
No. 26 Ft. Des Moines	98
No. 28 Ft. Sheridan	181
No. 29 Ft. Snelling	86
*No. 30 Plattsburg Barracks	17
No. 31 Carlisle	63
No. 36 Detroit	63
*No. 38 Eastview	41
No. 42 Spartanburg	40
Ft. Sam Houston	80
Ft. Riley	59
*Camp Devens	35
* " Dix	59
* " Dodge	72

	"	Gordon	22
	"	Grant	64
	"	Jackson	41
	"	Kearny	41
	"	Lee	31
	"	Lewis	49
*	"	Meade	54
	"	Mills	10
	"	Pike	39
	"	Sherman	55
	"	Taylor	41
*	"	Upton	58
	Total		2,389

Enrollments in the Americanization Courses have been mentioned. A consideration of Extract 2 suggests the scope of some of the possible influences for good which, it is reasonable to hope, might result from such work.

EXTRACT 2

Rise of Enrollments in Americanization Courses

	1918					1919				1919
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
English	84	72	52	58	122	535	889	1,338	1,490	1,828
Reading	179	204	261	222	421	371	557	739	656	888
Spelling	158	140	107	155	248	347	510	702	769	1,013
Penmanship	200	239	315	256	608	707	1,194	1,638	1,861	1,997
Geography				12	12		7	52	83	177
History			5	20	20	20	84	30	70	54
Arithmetic	251	263	285	245	570	720	1,134	1,765	1,838	2,279
Total	872	918	1,025	968	2,001	2,700	4,375	6,264	6,767	8,236

The varieties of work and occupation conducted in the wards themselves, under the sub-sections of Ward Handcraft and Ward Academic, are indicated in Extract 3.

EXTRACT 3

Ward Work

Work in the wards is divided into Ward Handcraft and Ward Academic Work. The figures for the number of enrollments in all Educational Work comprise the number of enrollments on the first of the month plus admissions dur-

ing the month. This method aims to give full credit to the hospital for its Educational Work.

Work in the wards for March shows an increase over that of the preceding months. The increase in enrollments and the increased demand for instructors emphasize the value of this work. The enrollments for Ward Handcrafts are as follows:

	Dec.	Jan.	Feb.	Mar.
Work with Textiles (knitting, weaving, etc.)	991	2,413	3,612	4,786
Wood Working (carving, toys, etc.)	550	941	1,808	2,439
Reed, Cane and Fiber Work	534	897	1,555	2,596
Work in Applied Pattern (lettering, etc.)	271	210	284	282
Metal Work (jewelry, etc.)	204	489	1,124	2,363
Leather, Cardboard and Binding	66	374	651	1,233
Work in Plastic Materials (pottery, etc.)	50	298	362	446
Unclassified enrollments	1,251	——	796	1,650
Totals	3,917	5,622	10,192	15,795

Ward work in Academic shows a total of 3,194, thus giving a total of ward enrollments (Academic and Handcrafts) of 18,989. This is a considerable increase over the ward enrollments for the previous months: December, 4,486; January, 6,229; February, 11,456.

The subjects and enrollments for March are as listed:

Typewriting	440	Drafting	47
Arithmetic	352	Braille Reading	45
English	336	French	43
Reading	322	Telegraphy	23
Spelling	223	Lip-reading	16
Penmanship	208	Salesmanship	13
Shorthand	190	Speech Correction	6
Drawing	186	Italian	6
Music	81	Science	5
Higher Mathematics	68	Advertising	3
Business English	62	Geography	3
Bookkeeping	60	Civil Service	2
Spanish	51	Commercial Law	2
Agriculture (study)	48	Latin	1

Unclassified	352
Total Ward Academic	3,194
Total Including Handcrafts	18,989

From Extract 4, one may learn the types of occupation offered to, and accepted by some tens of thousands of patients who, though they had progressed sufficiently toward health to permit of ambulatory treatment, yet had not arrived at a point justifying discharge from hospital care.

Many of these patients were merely continuing work previously commenced in the wards. Others, of course, had been received as ambulatory patients, and were sent directly to shop or school for occupational assignment. It will be noted that all Academic work conducted in shop or school was listed under the sub-section of General Courses.

EXTRACT 4

Shop and School

The work in the shop and school has been divided into three divisions according to the *Educational Officer's Handbook,* namely:

I. General Courses, which include Academic and Professional subjects.
II. Technical Courses, which include
  (a) Shop and Trade Courses, e. g., Electrician, Machinist, etc.
  (b) Commercial, e. g., Typewriting, Shorthand, etc.
  (c) Agriculture, e. g., Gardening, Crop Study, etc.
III. Recreational Courses, which include Drill, Physical Culture, etc., *prescribed by the Ward Surgeon.*

Note:—In giving enrollments and individuals enrolled in Recreational Courses include only courses prescribed for curative value—do not include voluntary activities.

The enrollment in shop and school subjects as classified above for the past four months is given as follows:

	Dec.	Jan.	Feb.	Mar.
I. General Courses	2,439	3,166	5,845	7,045
II. Technical Courses				
(a) Shop and Trades	2,010	2,973	4,611	7,018
(b) Commercial	1,117	2,013	3,276	4,713
(c) Agricultural	564	808	1,027	1,583
Total a, b and c	3,691	5,794	8,914	13,314

III. Recreational				
Courses	1,633	2,616	3,261	5,569
Totals	7,763	11,578	18,020	25,928
Total including ward work	12,249	18,172	29,733	44,917
Number dropped during month	4,435	5,695	8,986	15,636
Total at end month	7,814	12,477	20,747	29,281

In interpreting the above table it should be noted that all Reconstruction Hospitals were not reporting during the past months; for instance, only twenty-three Reconstruction Hospitals reported in December. Also the Base Hospitals did not open until January, consequently only a few reported that month. Therefore in many instances the figures should undoubtedly be larger.

A consideration of Extract 5 will indicate the types of disability showing the greatest numbers of enrollment in educational work.

It is noteworthy that Pulmonary Tuberculosis appears as second in frequency upon this list, from which may be inferred the importance of adapting the resources of Occupational Therapy to the especial needs of the tuberculous patient.

EXTRACT 5

Types of Cases in Educational Service

The types of cases of disability showing the greatest number of enrollments are:

Orthopedic	5,016
Pulmonary Tuberculosis	3,139
Diseases—Wounds	1,689
Amputation	1,125
Wound or injury of Nervous System	837
Functional Neuroses	730
Eye, Ear, Nose and Throat	536
Insanity	536
Gassed	323
Cardio-vascular	313
Arthritis	246
Nephritis	199

Gastro-intestinal	154
Severe Injury to Face and Jaw	120
Venereal Disease	68
Skin Diseases	66
Blindness	64
Deafness	34
Neurasthenia	32
Speech Defect	6
Paralysis	2
Other General Medical	1,326
Other Surgical Conditions	1,567
Convalescent	1,610
Total	19,738

Table I gives the consolidated figures upon which the subsequent Tables are based. It is not often that one is privileged to utilize data covering a series of patients to be counted not in tens and hundreds, but in tens and hundreds of thousands. Furthermore, the recorded experience of an educational organization which carried upon its rolls an average of over 15,000 students per month (with an average monthly total of enrollments of 28,871), for a consecutive period of 18 months, is entitled to respectful consideration.

This organization, the Division of Physical Reconstruction, gave occupation to an average of more than 50% of an average monthly total of 33,282 patients in hospital; and many of this total of patients were of course inaccessible, for purely medical reasons.

An average staff of 1,404 was required to carry on the work.

All this volume of educational work, in effect that of a national university of 15,000 students, was carried on not only as accessory to and without interruption to, but with positive benefit to the progress of the physical disabilities for which these patients were being medically or surgically treated in hospital. In fact, the departure from hospital of these thousands of patients was positively facilitated by the educational work accomplished; also, as a by-product, the patients themselves were being prepared mentally to occupy a higher economic status in life than had been possible previous to their entrance into the Army.

Table II indicates the percentage of the total enrollments by months, for the five sections of Occupational Therapy.

TABLE I

TABULAR VIEW: OCCUPATIONAL THERAPY SECTION,
DIVISION OF PHYSICAL RECONSTRUCTION, S. G. O.
DECEMBER, 1918 — JUNE, 1920

Months	Enrollments by Sections					Total Enrollments	Staff	Ratio of Staff to Patients	Patients in Educational Work	Patients in Hospital	Percentage of Patients Occupied
	Ward		Shop and School								
	Craft	Academic	General	Technical	Recreational						
1918											
Dec.	3,917	569	2,439	3,691	1,633	12,249	1,134	1:11	5,292	23,455	23
1919											
Jan.	5,622	972	3,168	5,794	2,616	18,172	1,255	1:15	8,167	28,023	29
Feb.	10,192	1,408	5,845	8,914	3,261	29,733	1,827	1:16	16,296	63,428	26
Mar.	15,795	3,194	7,045	13,314	5,569	44,917	2,321	1:15	24,969	74,946	33
Apr.	18,829	3,552	7,620	15,705	7,033	52,739	2,362	1:22	28,500	66,640	43
May	20,641	4,961	8,056	15,043	8,149	56,850	2,385	1:24	30,096	62,964	48
June	18,317	5,172	6,502	12,899	6,908	49,798	2,233	1:22	26,339	55,554	47
July	14,110	3,714	5,269	9,810	7,272	40,175	1,582	1:25	20,578	37,546	55
Aug.	10,719	3,418	4,490	8,774	4,274	31,675	1,364	1:23	15,944	30,258	53
Sept.	10,728	3,323	3,962	7,787	2,973	28,733	1,217	1:23	14,224	24,737	58
Oct.	10,827	2,786	3,947	6,444	3,539	27,543	1,224	1:22	14,072	24,112	58
Nov.	7,371	2,876	3,425	5,465	4,316	23,453	1,189	1:20	13,598	22,305	66
Dec.	7,954	2,459	2,802	4,796	2,810	20,821	1,143	1:18	11,895	17,950	66
1920											
Jan.	7,250	2,992	2,978	4,265	3,184	20,669	1,016	1:20	11,410	16,618	69
Feb.	7,626	2,318	2,715	4,032	2,278	18,969	897	1:21	9,780	16,238	60
Mar.	7,480	2,154	1,937	3,844	1,068	16,483	818	1:20	8,841	13,560	65
Apr.	5,798	1,744	1,981	3,152	1,402	14,077	746	1:19	7,263	11,543	64
May	4,683	1,560	1,209	2,248	2,926	12,626	574	1:22	5,979	9,302	69
Totals	187,859	49,172	75,390	135,977	71,211	519,682	25,287		273,243	599,079	
Monthly Averages	10,436	2,732	4,188	7,554	3,956	28,871	1,404	1:20	15,180	33,282	52

TABLE III

Total Patients in Hospital and Total Patients in Educational Work

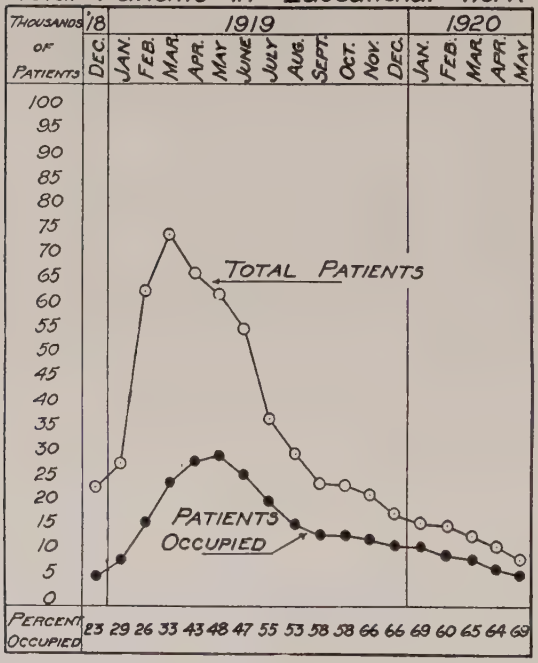


TABLE IV

Actual Enrolments in Ward Work

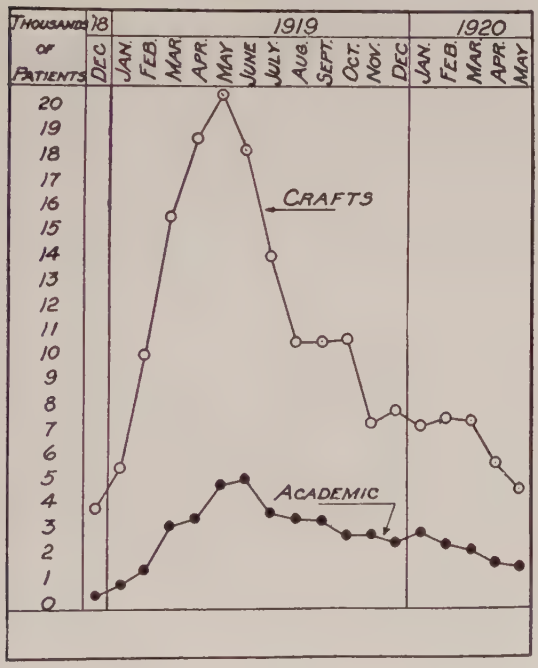


TABLE V

Actual Enrolments in School and Shop Work

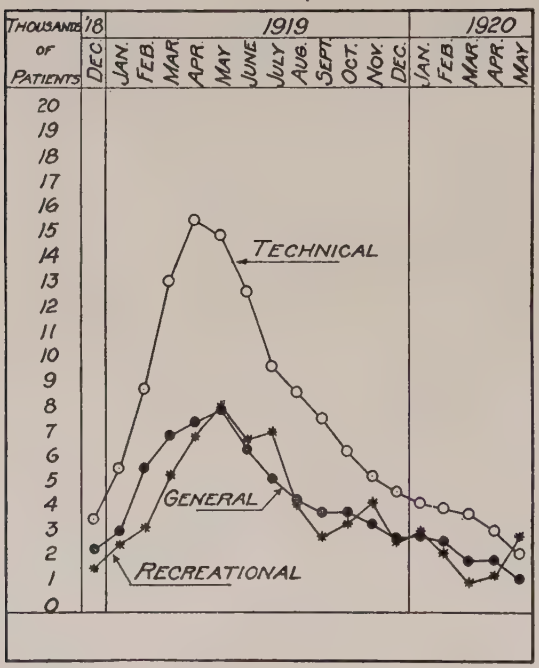


TABLE VI

Ward Work - Percentages of Total Monthly Enrolments

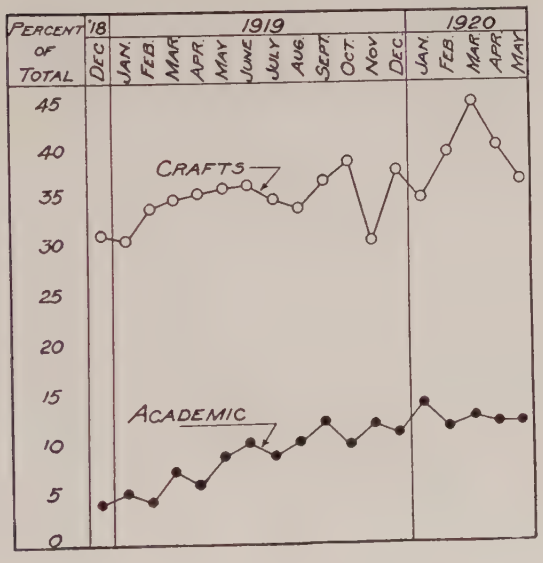


TABLE VII

School and Shop Work - Percentages of Total Monthly Enrolments

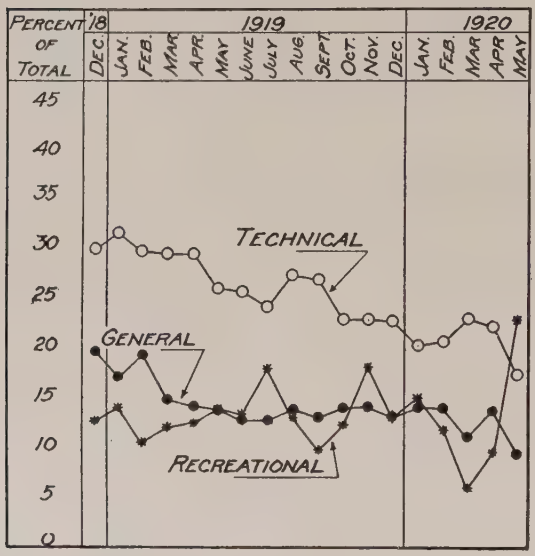


TABLE II

Percentages of Total Enrollments by Months

Months	Craft	Academic	General	Technical	Recreational
1918					
Dec.	31.9	4.6	19.9	30.1	13.3
1919					
Jan.	30.9	5.5	17.4	31.8	14.4
Feb.	34.2	4.7	19.7	29.9	11.2
Mar.	35.2	7.6	15.2	29.6	12.4
Apr.	35.8	6.7	14.6	29.6	13.3
May	36.6	8.5	14.1	26.5	14.4
June	36.8	10.4	13.1	25.8	13.9
July	35.1	9.2	13.1	24.4	18.2
Aug.	34.2	10.6	14.2	27.5	13.5
Sept.	37.3	11.6	13.7	27.1	10.3
Oct.	39.3	10.2	14.3	23.4	12.8
Nov.	31.0	12.3	14.6	23.4	18.4
Dec.	38.2	11.8	13.5	23.0	13.5
1920					
Jan.	35.1	14.5	14.4	20.6	15.4
Feb.	40.2	12.2	14.3	21.2	12.1
Mar.	45.3	13.2	11.8	23.3	6.4
Apr.	41.3	12.4	14.1	22.4	9.9
May	37.0	12.4	9.6	17.8	23.2

From Table III, it will be seen that the maximum of patients in hospital was reached in March, 1919. The maximum of patients occupied, was however not reached until two months later, in May, 1919. It will be noted that during the period of 18 months recorded, the percentage of total patients occupied increased exactly threefold, or from 23 to 69 per cent.

Tables IV and V give in graphic form the curves of the actual enrollments in the five sections of Ward and Shop work.

Tables VI and VII give the curves for the percentages of enrollments in the same five sections of Occupational work.

In general, it will be noted that the curves for the three sections of School and Shop work tend downward, in contrast to the rising curves for both the sections of Ward work. This is taken to indicate that accumulating experience pointed to the greater value of Ward work, as contrasted with School and Shop work.

In particular, it will be noted that the curve of Academic work,

is that of maximum percentage increase of utilization; it also shows minimum fluctuations. In other words, it would appear to have, relatively, the most constant values.

A glance at the curves (coëfficients) in Table VIII, based upon the figures in Table II, will suffice to indicate that after 18 months of practical trial of the possibilities offered by the five sections of Occupational work, Ward Academic work is, in regard to increased utilization, in a class by itself.

The coëfficients were obtained by taking the average of the percentages of the last three months, and comparing this figure with that for the first three months.

For illustration, the coëfficient for the Academic curve is 2.57. This means that, as compared with the number of patients so occupied in the first three months, the number of patients occupied in Academic work in the last three months of the period of 18 months under review, had increased by 257%.

Upon the same basis of comparison, with Academic work showing an increase of 257%, Craft work showed an increase in utilization of only 128%; and Recreational work showed an increase of only 102%. Technical work not only show no increase, but showed an actual decrease in utilization of 62%; and General work showed a still further decrease in utilization, of 69%.

Thus, Academic work showed a gain in utilization, 139% greater than shown by Craft work, its nearest competitor in the race for preference as the Occupational Therapy procedure of greatest proven practical value to the convalescent patient.

This, then, is the most important and striking result arrived at. Ward Academic work is the phase of Occupational work upon which to concentrate, if one believes that Occupational Therapy should give a maximum of permanent value to the convalescent patient.

Again, it is reiterated that, judged by simplicity of equipment and the lasting value of its results, Ward Academic work is unrivalled as a resource of Occupational Therapy.

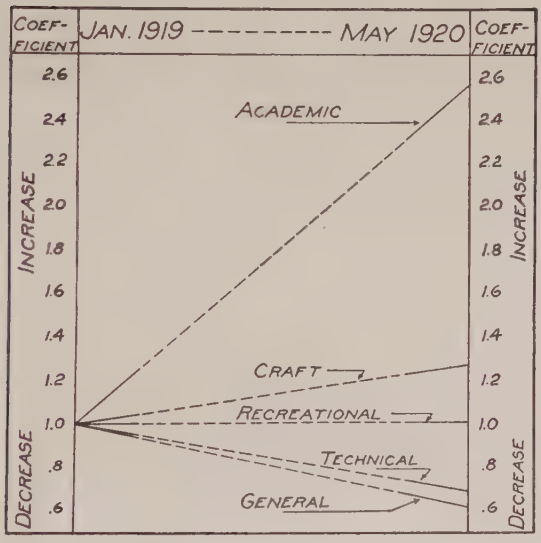
VII—Comment

The Convalescent Department, Walter Reed General Hospital

The Convalescent Department conducted by the writer at the Walter Reed General Hospital, is said to have bridged a definite gap in the routine hospital care of the sick, a gap which previously

TABLE VIII

Coefficient of Variation in Utilization of the Five Sections of Occupational Work.



had not been adequately filled. This gap, a deficiency in the care of the early or semi-hospital stage of convalescence, exists not only in the Army, but also in civil hospitals. It is believed that many features of the work of this Convalescent Department as carried on at the Walter Reed, could with benefit to their patients, be made routine procedure at many of the large civil hospitals in this country.

It is especially desired to emphasize the possible value to Civil Hospitals, of four factors in the success of this convalescent work. The first in importance of these four factors, is the purely medical, referring in particular to the diagnostic or orientation work conducted by the Walter Reed General Hospital Convalescent Department.

Diet, adequately controlled, is of an importance second only to medical orientation work, in promoting the return to health of the convalescent patient. This is mentioned, because hospital diet in convalescence, is a neglected phase of modern medicine.

Thirdly, attention is directed to the extreme value of carefully graded *slow* exercise, not only as an aid to determining the degree of recovery of patients normally progressing toward health, but as an aid in eliminating from a group of normally progressing patients, the mild malingerers who may find life pleasanter within than without the hospital walls.

The fourth success factor worthy of serious consideration, is intelligent utilization of all the available resources of Occupational Therapy, Physiotherapy, and Social Service work, with the objective in view of promoting a maximum attainment of mental and physical comfort and welfare, not to mention accelerated progress toward health, by the convalescent patients.

From the administrative point of view, the best results would be obtainable if the Convalescent Department, the Departments of Occupational Therapy and Physiotherapy, and the Social Service Department, should all be placed under the responsibility of a single medical officer; this officer should also act as liaison officer between these Reconstruction activities and the usual medical services. Such a responsible Chief of a Convalescent Department, should be placed upon the hospital Executive Committee, as are the Chiefs of the Medical, Surgical and Laboratory services; he should like them derive his authority directly from the Commanding Officer of an Army hospital, or from the Trustees or other governing body of a Civil hospital.

Physiotherapy

Physiotherapy was brought to a higher stage of efficiency in our best Army hospitals, than is even yet usual in civil life. In order to retain the best features of Army physiotherapy work for use in civil hospitals, it is obviously desirable to utilize in our civil hospitals, physiotherapy staffs, both directors and aides, who have had adequate Army training in physiotherapy.

Occupational Therapy

Occupational Therapy, on account of the unlimited man-power and funds available, was more highly developed in our Army hospitals than has been possible in civil life. There was opportunity to evaluate the good and bad features of Occupational Therapy, and to properly correlate the various sections of this work.

In introducing Occupational work into civil hospitals, if advantage is to be taken of lessons learned in the Army, it would be desirable to obtain the services of *men,* as Directors of Occupational Therapy for the larger civil hospitals,—men furthermore who have had opportunity to realize through practical Army experience, the true value of such work to the Convalescent patient. Reference is specifically made to *men* as Directors of Occupational Therapy, since it was found in the Army that better results were almost invariably obtained, with a man in charge of all the sections of a given Department of Occupational Therapy. It was found to be universally true that the women were of the greatest value in Handcraft work. They were also of value in the more elementary Academic work, but the patients as a rule seemed to take more interest when a male instructor was available for advanced work in any subject.

In applying Army Occupational Therapy work to civil hospital practice, there are certain underlying and fundamental principles which must be taken into consideration.

Every patient, after serious medical or surgical injury, goes through three stages in his mental progress toward recovery.

In the earliest stage of recovery, it may at first be impossible to interest the patient in any other than the simpler or even the very simplest and most elementary forms of Handcraft occupation,—this because of the tendency of all patients, to revert, after serious illness, to a childish or even infantile type of mentality. This first stage of recovery is preëminently the period during which to utilize all the

resources of Handcraft work; such work is also, of course, of great value in all stages of recovery from such ailments as those involving limitation of joint movements, and limitation of mental growth.

In the second stage of recovery, during which the patient is again beginning to take some serious interest in life, the lighter occupations such as Handcraft work tend to become the avocations toward which the recovering patient looks for relief from more serious occupational work. The more serious work should usually be in the nature of Educational or Shop work which may hold some promise of being of lasting value to the patient.

In the third stage of mental recovery, the lighter vocational or curative work tends to be almost entirely crowded out of the foreground, firstly in proportion to the total mentality of the patient, and secondly in proportion to the intensity of his desire to take up again the full burdens of life.

It is for the above reasons that Occupational work which stops at the Handcraft stage, falls so far short of its possible maximum usefulness to the average patient.

For women, the place which Educational or Shop work should take with men, may be filled by useful instruction concerning the daily life of the home; in the case of self-supporting women, something of value can be provided in connection with their employment.

It is certainly very striking to observe in hospital large numbers of men recovering from serious bodily injuries, men interested so deeply in the mental work provided for them, that they almost forget the existence of their bodily ailments; and it cannot be denied that such a state of affairs tends to promote more rapid healing of the bodily injuries.

Lest it may be thought that the Occupational Therapy procedures above outlined can be applied only to prolonged convalescence, thus making these procedures inapplicable to patients convalescing with normal rapidity, a conversation between the writer and a very capable Director of Occupational Therapy at Camp A, is quoted in substance as follows:

"There is a widespread belief that your procedures can be applied with benefit, only to those patients who are to be available to you for weeks rather than days. What is the shortest time in which you can feel certain of giving a patient something to think about, which

will stick, and keep on making him a better man after he leaves you and the hospital?"

"If I cannot give any man not a moron, good reason to be glad he came to me, within four days of the time I first see him, I will give up my job. You can take it from me that this work is one of the biggest opportunities for human betterment which a hospital can offer a sick patient, and you can do just as much for an acute case as for a chronic one, if you know your job."

Clinical Neglect

It has been stated that the convalescent patient suffers from clinical neglect. Exception may be taken to this statement. If so, a conversation which occurred in a very large New York hospital should prove suggestive. While on duty at the Surgeon-General's Office, the writer had been requested to speak before the Executive Committee of this Hospital, upon the subject of Convalescence. At the close of his brief remarks, a long thin Major arose at the other end of the table, and made vitriolic objections to the inference that any one in his hospital might be in any way neglected. He said that naturally he could not speak for the other services; he was, however, positive that no one could find any trace of neglect in his own service, in regard to any patient whomsoever.

After the heated remarks by the major, the then chairman of the Executive Committee, incidentally one of the best known and most respected of the older physicians of New York City, smiled pleasantly and from his accumulated fund of wisdom and his perspective of advancing years, spoke about as follows: "Well, Doctor, I am glad to hear what you say, and I congratulate you upon being able to maintain such an excellent standard of service.

"But for myself, I can only say that when *I* was on active duty at this hospital, *my* convalescent patients were *all* neglected, relatively speaking; furthermore, I know that now, today, *my* convalescent patients in my own private practice are *all* neglected, as compared with the attention that I must give to those who are more seriously ill."

Comment from the Literature on Convalescence

For every conceivable reason, the convalescents should be separated from the sick. (Fourcade, 1802.)

If then the opulent have, long since, discovered that a convalescent's retreat is good for them, will any venture to

say that it is not equally good, and infinitely more necessary, for the feeble and disabled of our manufacturing population?

It is essential, in such an institution, that it be quite removed from the intrusion and frequent visits of the relations and friends of the convalescents. (Robertson; 1837.)

Convalescence no less than disease belongs to the physician. (Vidard-Dupin; 1844.)

The convalescent is no longer ill; but one may not yet say that he is well: He is feeble, languid, unable as yet to resume completely the use of those functions and actions indicative of normal health. The study of this state of convalescence . . . is beyond contradiction one of the most interesting which presents itself for the consideration of the physiologist, the physician, and the philosopher.

It is a state in which . . . feebleness is at its maximum and resistance at its minimum; in which the muscular system, including the heart, is in a state of debility; in which the skin functions not at all or badly. In short, with nervous energy diminished, all the organs are below their normal degree of functional activity; and with this diminution of general tone, comes not only an increased sensitivity but a degree of nervous hyperirritability which seems to vary almost in inverse proportion to the degree of weakness and exhaustion of the convalescent patient. (Brochin; 1877.)

The motor machinery tends to lose range, scope, elasticity, and nicety of adjustment. Exercise should include accuracy, symmetry, deliberation, normality of direction, moderate speed, and maximum force. Mental training is so inextricably interwoven with motor training that it is practically conceded that motor education is the essence or basis of the whole. The best psychic results come through coöperation of bodily and mental education. This work cannot be delegated by a physician. The reason why so many invalids remain such, or so many convalescents become invalids, is because the medical adviser fails to complete his work, to appreciate the full significance of his duties, to apply his abilities to the perfecting of his measures—in short, to fill in the niche he had modeled for himself. (Taylor; 1905.)

As the facts in the section on convalescence bring out, the need for financial aid during after care is approximately much less frequent than the need for explanation and advice, given in terms of the patient's degree of education and understanding, and of the practical conditions of his environment.

The foreign-born patients who had had bedside lessons in English in the hospital and who had heard their own language understood and translated by a sympathetic interpre-

ter, beamed with appreciation at the remembrance. This happy coöperation with the Board of Education can be developed so that the often empty hours of convalescence will be brimming with interest.

The information gathered in Cleveland agrees entirely with the studies and estimates of Dr. Frederic Brush, the leading national authority on convalescent care, that the medical job is not done at the time the patient leaves the hospital.

Unless this subsidiary but important investment in convalescence is made, the value of the whole investment may be nil.

An essential element to any real advance is an adequately maintained convalescent institution. Such an institution does much more than provide care for the particular patients who can be admitted to it. It would serve to stimulate medical study of convalescence, now a field much neglected, and would promote throughout the community interest in the problem of convalescence which will add to the efficiency of all kinds of medical care in hospitals, dispensaries and in the home.

The cost of maintenance of a convalescent institution is about half that of a hospital receiving the same number of persons with acute disease. A convalescent home is an institution which no city can afford to omit in providing for its sick. Its absence means burdens upon the hospitals, which involve undue expense, and burdens upon the community which are less easily traced, but which are no less real, being a financial drain upon the charitable public and a definite loss to wage earners and to employing interests. (Cleveland Hospital and Health Survey; 1920.)

The adequate care of convalescents and of the various subnormal and border-line health conditions, is a major public health need and problem in America. (Brush; 1923.)

Provision for the care of convalescents constitutes an indispensable complement to hospital treatment. Institutional and convalescent care has evidently become recognized as a community responsibility in New York City. (Public Health Committee of the New York Academy of Medicine; 1923.)

VIII—Conclusions

1. The convalescent patient, be he medical or surgical, has suffered and is suffering from clinical neglect.

2. The convalescent patient will continue to suffer from clinical neglect until it becomes accepted routine that he shall receive ade-

quate treatment in wards (preferably in country convalescent institutions) from which the actually ill are excluded.

3. Adequate treatment of the convalescent patient implies treatment by a staff especially trained in the intelligent application of such methods as were developed in the Army under the supervision of the Division of Physical Reconstruction, Surgeon-General's Office; a staff, furthermore, trained to care primarily not for the acutely ill, but for those patients, who are (a) convalescing, or (b) suffering from illness not of acute type.

4. The care of convalescence reached a higher level of efficiency in the U. S. Army during the late War, than it has ever reached before or since, in an Army or in civil life.

5. The procedures which in our Army produced such a satisfactory degree of efficiency in the care of convalescence, are available for use in civil life. Foremost among these procedures, may be mentioned Occupational Therapy, and Physiotherapy.

6. An impressive Army experience in Occupational Therapy has demonstrated that, in the order named, Ward Academic and Ward Handcraft work are the two sections of Occupational Therapy which offer greatest promise of potential or lasting value to the convalescent patient.

7. The civil hospital which does not adapt for its own use, those Army procedures which were proven so productive of positive and beneficial results in the care of convalescence, is not yielding maximum returns to its supporters, to its patients, or to its community.

8. Voluntary adequate community care of our armies of young convalescents, is relatively inexpensive. It is the only known alternative to expensive and involuntary care of our armies of old incurables.

9. Inadequate care of convalescence spells:
   (a) half-completed medical work.
   (b) half-cured patients.
   (c) financial inefficiency.
   (d) economic waste.

Note

The writer takes pleasure in acknowledging his indebtedness to many persons and sources, both for assistance rendered in the preparation of this article, and for assistance and encouragement given

during the earlier progress of the original work upon which is based the article itself.

Chronologically arranged, thanks are due especially to the following: Major H. C. Michie, M. C. U. S. A.; Dr. E. G. Brackett; Dr. B. M. Randolph; Dr. F. B. Granger; Dr. Lewis A. Conner; and Dr. Frank Billings.

IV

Medical Aspects of Surgical Convalescence*

I—General Considerations

Objective

The object of this paper is to present for consideration certain medical aspects of surgical convalescence, especially those aspects concerned with the first three, or hospital weeks of convalescence.

Other medical aspects of convalescence, more especially concerned with the second three weeks, or convalescent hospital weeks of convalescence, have been previously presented[3], and will be further considered in future papers.

The material herewith offered is of two kinds: certain general considerations, as time factors; and several items affecting the personal treatment of the patient. These latter items are offered, not as being new, but because though known, they too often receive too little attention from the surgeon.

It reflects upon the surgeon, though his technique be perfect, that the patient after leaving hospital, should so often be heard to say that though the operation was doubtless well enough done, what small comforts he got in hospital, were obtained with small thanks to the surgeon.

A little more attention to the details of personal treatment would, out of all proportion to the time and effort involved, increase the already high regard in which the surgeon is held by the patient.

Literature; Recent

In preparation for this paper, the title Convalescence was sought in the indices of the last six volumes (80-85 inclusive) of the *Journal of the American Medical Association*. It does not appear at all in Volumes 81 (1923), 83, 84, and 85 (to December, 1925). In Volume 82 there is found one title, and in Volume 80 there are two titles under the heading Convalescence, a total of three titles in the six

* Bryant: Boston Med. and Surg. Jour., 1926, cxciv, 920.

volumes. This almost complete absence of the title Convalescence from the index of this national *Journal* does not necessarily mean that there has been nothing written on this subject; for example, the writer has provided eight or ten titles since 1923. This absence must, however, reflect rather accurately the relative importance in which the fundamental subject of convalescence is today held by the majority of physicians.

Definition and Description

What does one mean by convalescence? A recent worker has briefly said that convalescence is as much a state of mind as of body, and Taylor[8] has expressed thus some of the requirements for its successful treatment:

> "The motor machinery tends to lose range, scope, elasticity, and nicety of adjustment. Exercise should include accuracy, symmetry, deliberation, normality of direction, moderate speed, and maximum force. Mental training is so inextricably interwoven with motor training that it is practically conceded that motor education is the essence or basis of the whole. The best psychic results come through coöperation of bodily and mental education. This work cannot be delegated by a physician. The reason why so many invalids remain such, or so many convalescents become invalids, is because the medical adviser fails to complete his work, to appreciate the full significance of his duties, to apply his abilities to the perfecting of his measures—in short, to fill in the niche he had modeled for himself."

But few better answers to the question, or more suggestive descriptions of the state of convalescence have been given, than that by Brochin[2]:

> "The convalescent is no longer ill; but one may not yet say that he is well. He is feeble, languid, unable as yet to resume completely the use of those functions and actions indicative of normal health. The study of this state of convalescence . . . is beyond contradiction one of the most interesting which presents itself for the consideration of the physiologist, the physician, and the philosopher.
>
> "It is a state in which . . . feebleness is at its maximum and resistance at its minimum; in which the muscular system, including the heart, is in a state of debility, in which the skin functions not at all or badly. In short, with nervous energy diminished, all the organs are below their normal degree of functional activity; and with this diminution of

general tone, comes not only an increased sensitivity but a degree of nervous hyperirritability which seems to vary almost in inverse proportion to the degree of weakness and exhaustion of the convalescent patient."

Mental and Nervous Involvement

In his description of this state of convalescence through which every patient must pass on the way to good health, Brochin displayed keen perception of a fact which is too little understood or appreciated; namely, that after serious illness, medical or surgical, the patient, before a completed convalescence is possible, must have recovered from a condition of relative disorganization of the nervous system, both mental and motor. This disorganization of the nervous system may not be too obvious. It must however be given fullest consideration if the physician expects to obtain from his medical or surgical procedures an end result gratifying both to himself and to his patient.

Fundamental Similarity of Medical and Surgical Convalescence

From this point of view, or indeed from any point of view, it makes little difference whether the patient has had pneumonia or typhoid; or an operation for disease of the gall bladder, or of the bone or other structure. Operative procedures become, so to speak, incidental, mere contributing factors in producing the total degree of deviation from normal, from which the patient is convalescing.

Time Factors

It is too frequently and too complacently assumed that the time factors involved in convalescence are chiefly those dictated by the duration of healing of traumatized local tissues, whether the trauma has been produced by the scalpel and manipulations of the surgeon, by a fracture of bone, or by a crushing or other destructive force. Thus, both in medical and surgical circles, the unit of time for recovery in acute medicine is frequently viewed as being between ten and fourteen days. This of course means that at the end of this period of time the patient is either headed for extinction or is on the road toward recovery. Such a unit of time, based upon the findings of pathology and anatomy, concerns however only the tissues affected by the surgeon or by the disease which brought the patient to hospital. It takes no account of the additional time required for recovery by the patient himself, after he has successfully passed through the immediate stage of acute illness.

From the point of view of perfect surgical technique, it may be correct to state that the average patient is well in three weeks. But from the point of view of the immediate comfort and future health of the patient as a human organism, the point of view from which this paper is written, such a statement is absolutely not correct.

Since any rational understanding of the problems of medical or surgical convalescence presupposes an accurate idea of the time factors involved in the recovery of the patient himself from acute illness, and since there is a widespread misunderstanding of the time actually required for complete recovery of the patient himself, it is necessary to refer for authoritative information upon this subject, to the only article in the literature which gives reliable data upon this important question, namely, the article by Bridgman[1], entitled "Duration of Normal Convalescence,"—especially to the figures in his Tables 1 and 2*.

These figures, although not final, suggest that:

1. There is no great difference in actual recovery time, between medical and surgical cases. Both require an average total of not less than six weeks for completion of convalescence.

2. In both groups of cases, the actual time for full recovery is more than double the time (three weeks) which has been assumed to be adequate for the completion of convalescence.

3. In none of the simple surgical conditions listed was the actual recovery time less than five weeks, a finding to give pause to the prevalent custom of telling the patient that, for example, a week is ample for recovery from a routine tonsil operation.

4. If, on the basis of Bridgman's figures, it be accepted as a fact that six weeks of time is required for real convalescence, and if, as it appears, it is and has been true that our existing system can only result in the turning out of hospital, of thousands of half-cured patients, the only economic solution would seem to be to provide country branches at which hospital patients may complete recovery from illness under adequate and active rather than passive guidance, without financial ruin, and at an expense for maintenance less than half that required in crowded acute hospitals within city limits.

* See page 45.

It was well enough known in the Army that under the usual methods of routine rapid discharge of patients from hospital direct to full duty, there was a return to hospital of patients incompletely relieved, totalling some fifteen to twenty percent of all discharges from hospital. At a large convalescent camp in France, Bridgman improved his opportunity to compare the average time of discharge from hospital direct to full duty, with the time required for men carefully checked as to physical and mental progress toward real recovery by passage through his convalescent camp as through a proving ground between hospital and front-line duty, to be certified as recovered from the same medical and surgical conditions and fit to return to front-line duty.

Bridgman proved that six weeks, not the usually accepted three weeks, is the time required for complete recovery of the average patient sick in hospital. This proof is of great value. It is of infinitely greater value to know that Bridgman, as a result of his system, could send his patients to work really recovered in health.

Never has any other observer been able to duplicate such a record as a follow-up in two months, of a group of as many as 2000 patients, giving as low as one percent of failure in the continuous and satisfactory performance of routine work. Think for a moment of the ultimate economic advantage to be gained by the general application in civic life of a system which can produce such end results, one which could almost eliminate the word "half-cured" from the medical vocabulary.

One may express surprise or disbelief at the figures arrived at, but this of itself does not invalidate the findings of Bridgman. It is more reasonable to admit that after all we may have been wrong in accepting a laboratory and local tissue basis of recovery. We may then profit by Bridgman's methods and results, act upon them, let the patient have the benefit of his data, and see to it that before being passed as fit for full duty in civil life, the patient is given for full recovery, the average of six or more weeks which Bridgman found to be necessary for the actual and complete recovery of his cases, from medical or surgical illness.

The average stay of a patient in an acute hospital today, is generally conceded to be about three weeks. But with Bridgman's figures for the average duration of medical or surgical convalescence as a reliable basis, it may be stated as a general proposition that after leav-

ing the acute hospital, the patient who has been sick enough to require the average of three weeks in acute hospital, will yet require a second three weeks of intelligent and active convalescent care before he will be prepared to resume his previous work on a level of efficiency at least equal to that which he was maintaining before he entered hospital.

Medico-surgical Coöperation

With a prescribed total of six weeks in mind, we are confronted with the problem of how to make the best possible use of this period of time.

In these days of preventive medicine, doubtless all will agree that the convalescent stage of illness should be favorably affected by adequate attention to the pre-operative phase of illness. Since the Mayo Clinic is commonly assumed to speak with an authority based upon experience, it seems worth while to quote the following concerning pre-operative care and medico-surgical coöperation, from a letter recently received from Dr. G. B. Eusterman of this Clinic:

> I think it is a matter of common knowledge that the surgeon and internist, until very recently, were not coöperating sufficiently to the advantage of the patient and to the progress of medicine. Evidence of this is shown by the fact that as one goes through the wards in large hospitals, one sees patients in the medical wards who should have been in the surgical wards long before; and, conversely, many patients undergo surgical operations who should first have had more careful observation and treatment.
>
> Here at the Clinic, there has been a gradual rapprochement between the surgeon and the clinician. I cannot take the time to go into the various reasons for this. Suffice it to say that the surgeon was broad-minded and willing to see the value of coöperation, and encouraged it as soon as results were shown. I think we might say, in the first place, that the most important phase of this coöperation is the adequate pre-operative preparation of the patient. No matter how skillful the surgeon is, if the patient is in such a condition as to make operation hazardous, an increased surgical mortality is sure to follow, even though the post-operative care is very prompt and thorough. This has been shown particularly in that group of lesions that carry a large surgical risk, such as patients with diseases of the thyroid, of the genito-urinary tract (especially the prostate with urinary retention), of the stomach and duodenum complicated by pyloric obstruction,

with diseases of the biliary tract complicated by jaundice, and in patients with diabetes or cardiovascular lesions requiring surgical interference.

For example, such pre-operative care has reduced the mortality in surgery of the thyroid from six and eight percent to less than one percent. It has reduced the surgical mortality in cases of obstruction and retention, of benign malignant lesions of the stomach and duodenum from seventeen to about two percent. It has reduced the mortality in prostatic diseases with their complications from ten and twelve percent to about two percent. In the post-operative care there has been a marked reduction—I cannot give you the actual percentage at present—in the patients with obstructive jaundice, and in patients undergoing operations on the stomach, who develop post-operative toxemia, particularly that form that is associated with alkalosis. In pulmonary complications, too, the early calling in of the internist by the surgeon has frequently avoided a fatal issue.

In this Clinic, the intimate association of a large medical and surgical service in the same institution (St. Mary's Hospital) has been a physical factor in such close coöperation. The better post-operative care, from a dietetic standpoint, has reduced late sequelae in patients who have undergone operations on the upper digestive tract. It is now the custom before dismissal, to return all patients undergoing major operations, to the medical consultant who originally saw the patient, for further post-operative study and follow-up, and for the correction of any minor condition that has not been carried out. In my field, about the only improvement that I would wish for is a little more exact immediate post-operative care in patients who have undergone operations upon the stomach or duodenum, especially the group in which the lesion was not removed at the time of operation."

Continuity of Supervision

Many patients complain that, in the transfer of medical responsibility from the family physician to hospital control and from hospital control back again to that of the home physician, continuity of medical care of the patient is lost. The same argument too often applies also to the transfer of the patient from medical to surgical and later from surgical to medical control. Under existing methods, it is the patient who suffers by such interrupted continuity of control and treatment. Something has got to be done about it by the medical profession. It gets nowhere to say that this does not apply in the best medical circles. It does occur, frequently, and the intelligent

patient does not appreciate it. Presently, if in the meantime the situation has not been improved, the long-suffering patient may conclude to do something about it himself, without regard to what the medical profession may think about it. This way lies state-controlled medicine.

Theoretically, it would appear that responsibility for continuity of control makes it incumbent upon the sending physician to keep himself adequately in touch with the progress of his patient, temporarily under the care of another, until such time as the patient is returned to his own control. Practically, no other method of avoiding justifiable criticism is immediately obvious.

Principles of Medicine versus Personal Treatment

Principles of medicine are often of less immediate and personal interest to the really sick patient than the small details of actual treatment; and it sometimes seems that the sick patient appreciates attention to these small details almost in inverse proportion to their actual size and importance, as judged by the physician. For this reason, rather than because the details themselves are unknown, emphasis will in the following paragraphs be placed upon certain routine procedures, attention to which the patients themselves have certainly seemed to appreciate, as indicated by repeated expressions of gratitude.

II—Pre-Operative

General Preparation

In these days, relatively few of the total of operations performed are absolutely imperative. In other words, a majority of operative procedures can, with the patient under adequate observation, be postponed for a few hours, a few days, or even a few weeks; and in these longer periods of postponement, it is possible to so improve the nerve-muscle mechanism and so train the mentality of the patient, as to affect definitely and for the better, the post-operative recovery of the given patient.

Local Infection

Assuming an adequate physical examination and history, if the situation is not urgent, a period of training, both in hygiene and in neuro-muscular coördination should precede operative procedures.

During this training period, it is possible to clean up, alleviate, or remove obvious sources of local infection.

Neuro-muscular Training

For the purpose of what may be called nerve-muscle training, the writer has now for more than ten years made routine use of two series of exercises, one reclining and one standing. A motion picture film illustrating a group of patients executing a portion of this standing exercise routine, is available[6]. This type of exercise has also been referred to in previous articles[5]. Both these groups of exercises are carried out at a very slow rate of speed; in neither set does the rate of performance exceed a linear speed of approximately two to three inches per second. There is physiologic basis for the use of this slow type of exercise.

The first series of exercises is carried out with the patient in the reclining position; the obvious advantage of this is that the patient can be developed physically without the fatigue incident to the usual standing exercises. One result of the patient's having been trained in these exercises before operation, is that without additional mental strain after operation, the previously trained patient can be early brought to resume the use of this first set of simple reclining exercises. Its use will not only occupy to advantage both the mind and the body, but will in addition make it possible for a patient to get out of bed even after weeks of illness, without loss of muscle tone, and with normal ability to walk; this obviates the usual loss of time devoted to regaining muscular strength, after the patient is out of bed.

Diet

Most patients dread the more or less usual post-operative nausea and vomiting. The patient appreciates being instructed in the details of a diet which will with considerable certainty decrease this disagreeable sequel to anaesthesia. For this purpose, the writer instructs patients soon to be operated upon, to omit from their diet for from three to five days (according to the degree of expectation of nausea and the degree of nervous irritability of the patient), almost all such fats as cream, butter, and oil; and all eggs, meat, and fish. This results in the use of an intentionally one-sided diet. The patient gets a much reduced protein and fat intake, but a normal amount of minerals, vitamines, greens and starches. If the proof of the pudding lies in the eating thereof, it may be said that the results of this procedure have been most satisfactory to the patients themselves.

In addition to these dietary directions, the patient is advised to force fluids, and to use a teaspoonful of bicarbonate of soda in a cup of hot water three times daily after meals, during the period of pre-operative dietary restrictions.

The Night Before Operation

Crile and others have pointed the way to an improved mental preparation of the patient for operation. Assuming that the physician has in general told the patient what to expect, the patient will perhaps arrive in the hospital late in the afternoon, "to be prepared" for operation on the following morning.

Too often, the special directions left by the surgeon do not include orders to see that the patient receives the necessary medication to produce a satisfactory number of hours of sleep on the night before operation. With this detail forgotten, the patient is altogether too likely to have a worried, restless, even sleepless night, with the result that he or she arrives at the operating room in a needlessly exaggerated state of "nerves."

This makes the work of the anaesthetist more difficult, for even with adequate pre-operative medication, the state of mind of the patient at the moment of induction of anaesthesia largely determines not only the degree of difficulty of induction of anaesthesia, but the amount of anaesthetic which will be required during the succeeding thirty to thirty-five minutes of operating, to hold the patient at the desired depth of anaesthesia. Obviously, the total amount of the anaesthetic used, is one factor determining the liability of the patient to subsequent nausea and vomiting.

Anaesthesia

Many patients, especially women, dread the last second of consciousness before the jump into the unknown. This special anxiety will have been largely eliminated, if the anaesthetist and the others in the ether-room have inspired the patient with adequate faith in them.

This special fear is however much more simply and more completely overcome by the mere presence of the physician who sent the patient to hospital for operation. Obviously, if faith in this physician did not already exist, the patient would not have followed his advice with regard to operation.

Cold and Nerves

Cold and the nervous system do not agree. It is therefore essential to see that on the day of operation, the patient be kept warm from the moment of waking, through the time of leaving bed, through the period of induction of anaesthesia, and through the period of operation, up to and including the return to bed in heated blankets. The amount of heat required to prevent the patient from feeling cold and chilly on the way to the operating room may seem unreasonable to the attendant; but objective shivering is the answer. If this exists, warmed blankets should be added until the shivering ceases. A controlled nervous system will justify the means employed.

III—Operative

Such details as attention to the proper placing of small pads under the back, while the patient is on the operating table; avoidance of over-extension of the arms against edges of the table; and care on the part of the anaesthetist to traumatize to a minimum the jaw and neck and face of the patient, will frequently obviate minor discomforts of which the patient on awaking from the anaesthetic, may complain more bitterly than of discomfort directly due to the operation itself.

The use of carbon dioxide at the end of anaesthesia, or at least the use of an anaesthetic of a sufficiently closed type to produce a full pink color[7] of the skin of the face at the end of operation, will in conjunction with the use of enemata of glucose following operation, make an appreciable difference in the ease and smoothness of recovery of the patient from the anaesthetic.

IV—Post-Operative

Control of Nervous System

Rapid recovery of the patient after operation will be promoted by eliminating the nervous system from consideration. Obviously, this is best accomplished by adequate use of morphine. Adequate use means the amount necessary to keep the patient asleep or at least in a dozing condition for practically the first forty-eight hours after operation.

In some cases, the amount of morphine required may be found to be large, even to doses of one-third grain or more. This will always be in the nervous worrying type of individual, in whom it is all the

more important to produce the result aimed at. It will be found however that in such an individual, one or two large doses may keep the patient quiet for hours at a time; consequently, at the end of twenty-four hours, such a patient may not have required so large a total of morphine on the large-dose principle, as on the more usual routine of more frequently repeated smaller doses.

An intelligent patient is a better judge than the surgeon, of the effects of definite procedures upon the comfort of the patient. If one asks any ten or twenty intelligent patients who have been through major operations both with and without the free use of morphine during the first forty-eight hours after operation, which method most promotes comfort and a smooth recovery from illness, the answer will always favor the method which, by disconnecting the nervous system, stops pain, discomfort and worry.

Some operators fear morphine habits, and other habits such as laziness on the part of the nurse. It is true that, after the first forty-eight hours, there are many ways of promoting or inducing sleep without the use of morphine; and after the first forty-eight hours, they should be used. But in this first and from the point of view of the nervous system, critical period of recovery, nothing short of disconnecting the nervous system and the emotions by the adequate use of a drug with the action of morphine, will so certainly produce the effects requisite for the initiating of a smooth convalescence.

This morphine effect is important. It is produced with a powerful and potentially dangerous drug, the use of which should be controlled by the surgeon. Its use should not be left as is now too often the case, to the discretion or whim of the nurse.

Nausea and Vomiting

Nausea and vomiting should have been largely eliminated by attention to the pre-operative details above mentioned. For that which does occur, it is helpful to alternate clear water with water containing sodium bicarbonate in amounts of about one-half teaspoonful to the glass of water. Not infrequently, when small quantities of clear water, or soda and water are not retained, the patient will retain a half or even an entire glass of soda and water, if this larger amount be taken in as fast as it can be swallowed. Occasionally, it seems almost as though the stomach were taken by surprise by the amount of fluid forced upon it, with the result that this fluid passes the pyloric sphincter before the sphincter has time to object, thus starting peri-

stalsis in the right direction. If these occasional larger amounts of fluid are not retained, no great harm is done, for they come up easily and in so doing act as an automatic stomach wash-out. Sparkling water is occasionally of great value, either plain or in the form of ginger ale, champagne, etc. Also, albumin water, plain or flavored, should be mentioned in the class of occasional life-savers.

First Night After Operation

The first night after operation, is often a bugbear to the patient. It is made so most often by the lurid stories of kind friends and relatives. In any event, it is during this first night that the patient begins to find out what kind of a surgeon, and what kind of a nurse he has. Next to the surgeon, and sometimes it seems even before the surgeon, the nurse is the factor which decides the ease of recovery, or more especially the comfort of recovery of the patient.

Nurse

Unfortunately, there seem today to be too many nurses who are trained in theory at the expense of bedside practice. In many cases, the fault lies less with the nurse than "higher up"; thus, one superintendent of an important training school tells her nurses that it is less important whether they become good private nurses, than whether they become fitted for administrative work. As a straw in the wind, it might be mentioned that a recent graduate of this same school told a patient who had objected to the very slipshod manner in which her food had been served, that the nurses really knew very little about setting up trays, because during their period of training all trays were brought the ward patients by "maids; and of course the nurses do not have to consider the details of dietary service." If providing a sick patient with tempting, appetizing and well cooked food is not one fundamental reason for having a nurse in a sick room, what are we coming to?

Surgeon

Even with perfect operating room technique, the first night after operation is almost the key to recovery of the patient. Yet, how many surgeons are there who know from personal experience and observation what happens to a patient throughout the first night following operation; and not knowing this, how is the surgeon to give intelligent directions to his nurse? The answer is that too few surgeons

have this personal knowledge. Too few surgeons, even in their medical school days, have as night nurse followed even one patient from the operating table to the bedside, there to continue to watch beside the patient until the following morning. In consequence, too many details are left with the nurse; and when, as too often happens, the nurse is not one to the manner born, it is the patient who suffers.

As a step toward relief from this situation, the writer would offer the recommendation that, after the manner of clinical obstetrical case work, every medical student before graduation be required to follow a series of not less than ten surgical patients from the operating table to the bedside; the student should thereafter be required to remain on duty as assistant nurse, throughout the whole of the first night after operation. Ten nights thus devoted to bedside clinical work might be enough to suggest to the intelligent medical student, some of the difficulties which may confront the patient during the first night after operation, say between 2 and 4 A. M.

Small Pillows

Next to the night nurse, perhaps one of the factors which makes most for comfort in hospital, especially during the first few days following operation, is the presence in the sick room of three or four small pillows both of the down and hair varieties, perhaps six by ten inches in size. One or two such small pillows may give almost instantaneous and very gratifying relief to an aching back or a painful knee or other joint. The patient, or his family, may not know of this detail. All hospitals should provide such small pillows. Failing this, it is the duty of the surgeon to see that such minor comforts are accessible to the patient.

Massage

Next in order of usefulness after these small pillows, skillful massage by a competent nurse is perhaps the factor which will most surely tend to promote the comfort and sleep of the patient.

Sleep

It has been said that skillful massage tends to promote sleep. One may exist for days and even weeks without other nourishment than water, but one may not live long without sleep; and upon the obtaining of an adequate quantity and quality of sleep will surely depend the rate and quality of convalescence from illness.

Assuming the ministrations of a skillful nurse and surgeon, an absence of undue worries on the part of the patient, and a reasonably normal convalescence, it will prove more difficult or less difficult to obtain for the convalescent patient that sleep which he must have, in accordance with the presence or absence of one or more of the following three factors:

(a) Excessive fatigue.
(b) Inadequate fatigue.
(c) Gonad irritability.

(a) *Excessive fatigue; mental, physical, or both.* This condition is best relieved by sedative physiotherapeutic procedures, especially massage and neutral baths. Stimulation must be avoided.

(b) *Inadequate fatigue; mental, physical, or both.* It is not sufficiently realized that many patients sleep with difficulty, not on account of being too fatigued, but because they are not enough fatigued.

Sleep is a physiologic antidote for fatigue. Usually, normal sleep follows upon a normal degree of fatigue. The treatment of inadequate fatigue, is more work not less work, mental, physical or both. Since the convalescent bed patient is not likely to overwork physically, it is in proportion essential that he should be kept busy mentally. This is easily accomplished through adequate application of the known principles of Occupational Therapy, especially that division of it referred to as Academic Work[4]. Handcraft and other elementary work may suffice for a kindergarten introduction to Occupational Therapy, but it is from an intelligent use of Academic or brain work that the best results will be obtained.

(c) *Gonad Irritability.* Too much nonsense and too many smoke screens of verbiage have obscured the view of facts concerning matters sexual, from the non-medical public which must for the most part get its physiology second-hand.

For present purposes, meaning enlightenment of the patient, it is enough to compare gonad irritability to the flow of water over the spillway of a factory dam. At low flood-water, the factory uses all the water back of the dam; there is no surplus. At high flood-water, the excess goes over the spillway, even over the main dam.

In the human, gonad irritability may be compared to a surplus which discharges over the spillway of health and strength. In sickness, there is no surplus, no discharge; all available energy is used for maintenance.

With returning health, excess strength accumulates; it may discharge itself as increased gonad activity.

It is a very old medical observation that, at some stage in normal convalescence, the patient may be troubled with an increasing gonad irritability which clearly indicates the return of a reserve of vitality. This applies to both men and women.

Many convalescent patients, especially women, are unduly disturbed mentally because they do not understand this question. Too frequently it is feared that this normal return of gonad irritability is a clear indication, not of normal recovery of strength, but of the onset of some dreaded irregularity in health.

It is for the physician to see that the appearance of this normal aspect of convalescence does not cause in his patient, a disturbance of the nervous system sufficient to prove a factor in interfering with normal and restful sleep.

Since the patient is likely to be unoccupied mentally at night and therefore in a susceptible frame of mind, it is especially under the heading of a factor disturbing normal sleep, that the writer refers in connection with the subject of sleep, to this question of gonad irritability. The cure for increasing gonad irritabilty is increased mental occupation. These two activities are antagonistic.

Diet

If the patient has been properly prepared for operation by the use of the diet above mentioned, it is a matter of indifference, at least for three or four days following operation, whether there be a movement of the bowels or not. Absence of undesirable material in the bowel at the time of operation, absence of harsh stimulation of the bowel by pre-operative and post-operative catharsis, and absence of unnecessary food products, will in a gratifying number of cases result in the resumption of normal movements of the bowel at three to four days after operation, without the use of the usual deluge of cathartics. Absence of intestinal commotion does much to speed the progress of normal recovery. In the average case, the use of an increasing diet should not be forced; it should wait upon increasing appetite. With ample liquids given, few bed patients will suffer through abstention from excess food for a week after operation; and most patients will derive immediate and ultimate benefit from such a temporary rest-cure of the bowel.

Pulse and Temperature Charts

On all bedside charts, one finds spaces devoted to the recording of the temperature, the pulse, and the respiration. It seems sometimes in danger of being forgotten that, as the temperature curve suggests the presence or absence of infection, the pulse curve reflects both the results of infection and surgical trauma, and the nervous personality of the patient. The pulse curve and the blood pressure curve, taken together, may rather accurately indicate the degree of nervous stability of the invalid. No patient should be allowed otherwise than flat in bed, or at most in a semi-reclining position for a few minutes of relief from the absolutely flat position, until both the temperature and the pulse curves have definitely returned to their pre-operative levels, or at least until it is proven that one or both of these curves will not return to the pre-operative level within a reasonable length of time. Later, when the patient begins to get about, it is even more essential to continue a close watch upon the stability of the pulse curve; this is the indicator which, if sufficiently frequently recorded, will first reveal any latent neuro-cardiac tendency in the susceptible patient.

Fatigue

At the time when the patient first begins to sit up, and later to leave bed, the spectre of fatigue presents itself for consideration. Not only thus early, but throughout the entire duration of convalescence, avoidance of excessive fatigue must be placed before all other considerations, if progress is to be both satisfactory and continuous. It is of no consequence whether the origin of the fatigue be mental or physical or both. The result is the same; physical and mental prostration; irregularities of the heart and circulation; interference with sleep and appetite; and atonic constipation with distention of the intestine from failure to eliminate normally ingested atmospheric air, not to mention other possible difficulties, all combine to delay recovery and make the patient regret the onset of excessive fatigue.

It is known that even in the normal person, fatigue is demonstrable after thirty minutes of effort, either mental or physical. In addition, the curve of fatigue is not an arc of a circle. It is a parabola. This means that the further down the curve one falls, the faster one goes. Furthermore, with increasing duration of fatigue, the time of recovery progressively increases, according to the square, the cube, etc., of the fatigue time factor.

For the above and other reasons, it becomes excessively important to avoid the occurrence of fatigue. This may be most easily and perhaps best accomplished by a system of five-minute rests (in the reclining position), for each thirty minutes of effort.

At first, the total duration of effort allowed may have to be much less than thirty minutes, with the duration of the rest periods greater than five minutes. The patient should not be allowed more than thirty consecutive minutes of effort, followed by the routine five-minute rest period, until convalescence has entered its third or fourth week following a major operation under ether anaesthesia.

It should be further noted that if the patient eats sitting up during the first few days, the fatigue factors are doubled. To a certain extent this special factor may be overcome by insistence upon a glass of water and twenty minutes of flat rest, before the meals are served; but the principle of duplication of the fatigue factors remains the same.

Reserve Strength

Though in the normal person fatigue is demonstrable in thirty minutes, no attention is paid to it because the normal person has a fund of reserve strength upon which to call, adequate in emergency to withstand three or more consecutive twenty-four-hour days of work without sleep.

Ordinarily, the calls upon the reserve fund of the healthy normal adult are made good by replacement of lost energy during a normal night of sleep.

In the semi-invalid or the chronically half well person, the semi-convalescent or the really ill individual, the normal reserve fund of strength may be more or less depleted, even to all intents and purposes exhausted. Until the accumulation of a new reserve of strength, such a patient or individual is condemned to live physically from hand to mouth, on a cash-and-carry basis, unable to borrow strength on credit from reserve.

The patient thus reduced in health reserve to the cash-and-carry basis, can live and work and yet gain strength, only when the half-hour schedule above outlined is strictly adhered to. There must be given no opportunity for possible further descent along the downward path of fatigue. The patient must be made to, and can, recover from each succeeding twenty to thirty minutes of effort, by strict attention to the required five minutes of complete rest in the

reclining position. Thus, even under unfavorable conditions, the patient can be kept from slipping downward along the parabolic path of fatigue. Then, with loss of ground prevented, there must occasionally occur favorable "breaks" which can upon this preventive system be converted into permanent gains by continuous application of the 30 : 5 minute schedule.

Slowly, intermittently, and on a saw-tooth curve, the patient can be gradually worked up hill—so to speak pulled out of difficulty by his own boot-straps. Individual ups and downs will of course occur, but viewed on a weekly or monthly basis, the average trend will be upward; and upon a curve which resembles a reverse of the fatigue curve, which is to say that the further uphill the patient gets, the more rapid will be his progress toward health.

Gradually, an adequate reserve will be built up, and the patient may at last become a credit customer in the market of health, freed of the annoyance and domination of cash-and-carry methods.

Especially, the patient must be instructed to do less, not more than usual, on the first two or three "good" days. Thus will come progress. Otherwise, each "good" day with its accompaniment of ambition, overwork, and resultant fatigue, will be followed by a relapse, a setback which follows upon fatigue as surely as night follows day. Such minor relapses may not be wholly recovered from for a week or ten days, and even much longer.

Obviously, the occurrence of a series of such minor relapses from such avoidable causes, may delay the completion of convalescence by days, weeks, even months.

It is not sufficiently clearly appreciated how many thousands of half-cured and semi-invalids we have all about us, on the streets or more or less at work rather than under definite medical observation. Until given a greater margin of physical strength, these subnormals are forced, in order to make even a semi-success of life, to live upon a cash-and-carry basis of health, slipping slowly downward along a descending spiral of strength. Each return to hospital finds them on a lower rung of the ladder of health. Eventually, trivial last straws of illness will, for these unfortunates, precede avoidable death.

V—Summary

1. Authoritative proof, indicates that the normal duration of convalescence, both medical and surgical, averages six weeks.

To date, it is not within the power of the physician or surgeon to decrease below this average of six weeks, the length of time necessary, with or without operation, for complete recovery of the human being from acute and serious illness.

To send the average patient out of acute hospital in the average of three weeks as cured, is merely to add to the thousands of half-cured persons who today bear witness to the failure of medicine to complete its job through intelligent application of known methods of adequate convalescent care.

2. Present surgical methods leave something to be desired, not only in the way of medico-surgical coöperation, but also in the line of continuity of care of the patient.

3. The patient, being human, appreciates not only surgical technique, but the utilization of known procedures which tend to promote peace of mind and bodily comfort.

4. The surgeon could well add to his perfect technique, many small refinements of medical care which tend to keep the patient comfortable and cheerful.

REFERENCES

1 Bridgman: Arch. Int. Med., 1919, xxiv, 65.
2 Brochin: Dictionnaire Encyclopédique des Sciences Médicales, Paris, 1877, xx, 155.
3 Bryant: Boston Med. and Surg. Jour., 1925, cxcii, 943.
Bryant: 1925, cxciii, 499.
Bryant: 1925, cxciii, 577.
4 Bryant: Boston Med. and Surg. Jour., 1925, cxciii, 577.
5 Bryant: Trans. Am. Gastroenterol. Assn., 1919, xxii, 248.
Bryant: Am. Jour. Electrotherap. and Radiol., 1920, xxxviii, 85.
6 Bryant: Motion Picture Film No. 188, Instruction Laboratory, Surgeon-General's Office.
7 Bryant: Jour. Am. Med. Assn., 1915, lxv, 1.
8 Taylor: Medicine (Detroit), 1905, xi, 658.

V

Convalescence: A Problem in Preventive Medicine and Public Health*

I—Introduction

In this day and generation, most of our large hospitals display in their corridors, direction signs, some of which bear the legend This Way Out. But these signs too seldom tell the patient whither the hospital portals lead. Thus, in more senses than one, many hospital exits may be inadequately marked.

Of what use is intramural hospital standardization and efficiency when as is so often the case the poor convalescent may be medically lost when but a few rods from the hospital walls? For example, the rational patient who has been seriously ill, longs with an intensity proportionate to his previous illness (even if this longing be not recognized), to be led to the highway of efficient health. Yet such a patient may leave hospital by any one of its many portals, without having learned from those who should have been his mentors, that the pleasant fields of efficient health may be best approached through but one portal in the hospital wall. Leaving only by this half-neglected portal, may the patient come out with greatest certainty upon the sometimes tortuous path marked Convalescent Care, by which alone he can hope to reach his desired goal of health.

Unfortunately for the patient, this hospital portal called Convalescence, is all too often hard to find. The sign is obscure, old and neglected, and other exits are so much more modern in appearance that the poor patient, left perhaps to his own devices, is too prone to follow the brighter lights and find himself wandering down some great white way of medicine lined with the tempting bazaars of industrious and hyposcrupulous traffickers in medical gold bricks.

Leaving the hospital by other portals, the patient may flounder aimless weeks and months in the dismal swamp of clinical neglect before he comes at last, if ever, upon the highway of health; and

* Bryant: Boston Med. and Surg. Jour., 1923, clxxxviii, 99.

from this dismal swamp of clinical neglect rises in recent years an increasing miasma of pestilent charlatanism which bids fair to envelop the wandering pilgrim in its folds, leaving him nor means nor health when at last he stumbles out upon the road he seeks. Let us hope that in the not too distant future these gathering vapors through which so often the patient has had to grope his way, must recede before the rising sun of an awakened art of medicine.

It seems to have been the fashion in this latest generation of speed, to assume that by some sleight-of-hand, some necromancer's trick, the sick patient can be wafted back to health without traveling that path of convalescence which was so much better known to our elders than to ourselves. But no medical thought in recent times has been more pernicious or more productive of sorrow and misery to the hosts of the "half-cured" with which our charities and hospitals are increasingly beset, than this idea that modern specialized science has made unnecessary the once universal care with which the old and beloved family doctor surrounded his convalescent patients.

The present paper is not a casual presentation of the subject of convalescence. It is based upon an intensive ten-year study carried on surgically and medically, in post-mortem rooms and in libraries, both in this country and abroad. This study was primarily undertaken to increase the information available concerning the mental and physical characteristics of the type of patient referred to by me in various publications, as the chronic intestinal invalid. This study led to an appreciation of the fact that this special type of patient, as seen in hospital and private practice, represented one focus upon the larger general problem of convalescence. Invaluable personal experience in convalescent work on a large scale was gained in Army service, while stationed at the Walter Reed General Hospital, and the Surgeon-General's Office. To this was added a study of existing civilian convalescent methods, and of the possibility of applying to civilian work some of the lessons learned in army convalescent work. To familiarity with actual conditions in civilian practice in this country, has been added during the past summer an investigation into European methods of convalescent care. It is then not unreasonable to state that there are presented in the present paper, the conclusions from a serious and prolonged consideration of the general subject of convalescence, from the points of view of the individual patient, preventive medicine, and public health.

The conclusion is unavoidable that our prevailing method of neglecting the convalescent patient is radically wrong; it works to the disadvantage of the patient, the physician, and the community. The object of this paper is therefore to direct attention to the existing circumstances which lead to this conclusion, just stated, and to point out a few of the methods, all of them tested by experience, by which further progress may be made in this neglected field of medicine, in the certainty that when existing conditions are realized and methods offered by which these conditions may be bettered, the convalescent patient may confidently look forward to better care at the hands of the medical profession. The community, too, may look forward to a higher standard of health among its workers.

II—General Considerations

The word Convalescence, as is the case with other words, means different things to different people. From the point of view of the patient, it may be taken to mean that inevitable space between illness and health through which every patient who has been seriously ill must successfully pass in order to regain even a semblance of perfect health.

For the physician, Convalescence may be characterized as a condition of physical and mental disorganization and instability, which may commonly be expected to follow upon immediate recovery from a serious or exhausting illness, the condition continuing thereafter to manifest itself, but decreasingly, until such time as the patient has arrived at that degree of physical and mental poise which must for the given patient be considered his attainable maximum.

To the physician awake to his responsibility, convalescence is not a simple automatic process, but a complicated neuro-muscular transition from the relative disorganization induced by serious illness or prolonged fatigue. It is a period in which the patient needs much guidance since he is for the time in a state of mental reversion frequently evidenced by a childish irritability and even querulous credulity resulting in a peculiar susceptibility to suggestion. It is a period in which the patient urgently needs the mental and moral support of a competent physician in whom he has implicit faith. A portion of the opportunity of this physician is to guide the unpoised mind of the patient, to help him differentiate between the desirable and the less desirable elements for health progress, and to keep him

from falling prey to the nearest commercial health fakir. There can therefore be no one to blame should this latter misfortune befall the patient, except the physician who has failed his convalescent patient in his hour of need—a psychological occurrence which unfortunately too often occurs, usually because the hard-pressed physician is too preoccupied in caring for the seriously ill and in preventing sudden death, to give equal and adequate attention to the patient who has passed beyond the fear of immediate dissolution.

To the modern acute hospital, the convalescent patient is too apt to mean one who is no longer interesting, though it cannot be less true now than in 1844 when Vidard-Dupin proclaimed this truth, that "to the physician belongs the care of convalescence no less than the care of acute disease." Our hospitals in their annual reports emphasize the average duration of stay of the total of their patients, but neglect to give the percentages of those who have not left the acute hospital wards until after weeks or months from their date of entrance. This is but a symptom of a universal state of mind from which relief need not be expected so long as the same physician must simultaneously focus attention upon acute work in which the changes occur daily or hourly, and upon convalescent work in which the changes need not be expected to occur within less periods of time than perhaps weeks and months.

To the community, convalescence perhaps suggests only a vague conception of recovery from illness. The community does not appreciate that convalescence is in effect the one remaining gap left in the public health cycle; that to acute hospital care must, in the words of Brush, be added "recuperation with reconstructive treatment and functional and employment follow-up" before the complete responsibility of a given community for its convalescent sick can be said to have been fulfilled. There can be no doubt that every community will accept this responsibility once it is clearly pointed out; and when each community understands that such preventive medicine may be carried on in the open country not only to the greater advantage of the patient but at a cost to the community only one-half to one-third that which is necessary for the prevailing maintenance of convalescent patients in acute hospitals—a system at once detrimental to the health of the convalescent patient, and to the fullest proper use of the acute hospital beds.

The importance and logic of adequate convalescent care has been a matter of record for at least a thousand years; yet during the present generation, interest in this vital phase of preventive medicine and public health work has been on the decrease rather than the increase, until with a few notable exceptions real interest in convalescence has today almost reached the vanishing point. Furthermore, not only is the total literature upon the subject very scanty, but recent literature, upon the existence of which the revival of adequate interest must of necessity depend, is conspicuous by its absence.

The Paris of 1640 perhaps knew better or saw more clearly than we do, the importance of providing for its convalescent patients, for even at this early period nearly 30% of the total available beds in Paris were given over to convalescent patients, the Hôtel-Dieu and the Charité maintaining distinct convalescent sections in their hospitals. The England of Robertson (1837) saw and to some extent understood the need. So did the later Paris of 1858, which under an edict of Napoleon III accepted anew its civic responsibilities and provided 1000 beds for the country care of its men and women convalescent from acute illness in its city hospitals.

So also, the Boston of one or two generations ago recognizing the problem, constructed several small homes, both as private charities and in connection with its hospitals. The total beds thus made available were, even if inadequate, a definite step in advance toward the better care of its convalescent patients.

So, too, did the donor of the Burke Foundation more recently make himself a benefactor of the convalescent poor of New York City, by his generous gift of a 300-bed convalescent hospital at White Plains.

Yet somehow, a prolonged study of the general subject of convalescence leaves the uncomfortable sensation that constructive interest in the convalescent patient is less widespread now than in former generations. During the past thirty years or so, it almost seems that the individual, who after all is the patient, has been receding from the medical focus. Can it be that there is any connection between this possible change in the general medical perspective, and the decrease of interest in the convalescent patient? It would seem so, and that these shifts in viewpoint have come about somewhat in proportion as the test-tube and the microscope have revealed to the scientist the faceted bits of knowledge which when correctly fitted together make up the modern mosaics which are so often presented as

the typical cases in the large series of experiments conducted to verify some newer research.

Whatever the cause, the prevailing clinical neglect of the convalescent patient constitutes a very real, and the last remaining serious gap in our public health cycle. Worse still, this neglect by the responsible medical authorities constitutes a direct invitation—an invitation which they have not been slow to accept—to the multitudinous cults which today beset the convalescent patient on every side immediately upon his discharge from the sheltering walls of the acute hospital. These cults, as one might say at the invitation of the medical profession, make the most of their opportunities and fatten upon the emotions and fears of the discharged patient; and he, in his too unguided quest, is left in the yet unstable mental condition so characteristic of incomplete convalescence, to the mercies of the nearest beguiling vendor of specious promises of health.

In a desire to make available the information upon which the inevitable revival of interest in convalescence must logically be based, a chronological review of the subject has been prepared. This, the first of a series of articles upon Convalescence, appeared in the *Boston Medical and Surgical Journal* for Nov. 9th, 1922. A consideration of the information presented in this article can lead only to the conclusion that we have scarcely added anything new to the treatment of convalescence in the past fifty years. It is true that there have been some new or additional applications of old methods; but the medical care, the diet, the attention to the mental condition of the patient, occupational therapy, controlled exercise, travel, and nearly every other measure which one can think of, have all been utilized by the discriminating few, for scores if not hundreds of years, in an attempt to bring the previously sick patient back to his highest attainable level of health.

In recent times, New York has been unusually fortunate in having its attention focused upon the necessity of adequate convalescent care, firstly by Frankel and others; secondly, through the gift of the large 300-bed convalescent hospital of the Burke Foundation. Dr. Frederic Brush, its energetic director, has done much since the opening of this institution in 1915, to spread more and more widely the gospel of better convalescent care.

The Burke Foundation, and the Paris convalescent system are today the models for the world, from the points of view of private

and municipal care. Passing over, however, the important and pioneer work carried on by these two agencies, and passing over the extremely thorough and valuable report (1920) of the Cleveland Hospital Council, it is certain that our war experience provided the greatest recent impetus to better convalescent care. The opportunities for such care were unusually favorable in our own army since we had to a much greater extent than our allies, the available man-power for the carrying out of convalescent camp activities.

III—Convalescence in the Army

Thayer, from his vantage point of Chief Medical Consultant to the A. E. F., has summed up, perhaps better than others, the importance of army convalescent work.

Reporting in 1919, upon the medical aspects of reconstruction, Thayer stated that apart from the fundamental question of diagnosis, the medical man was confronted by two problems; prophylaxis, and his duty to the patient during convalescence. Thayer pointed out that in wartime the value of convalescent care is put on its proper basis in the reconstructive program. He noted that convalescent camps had proven a valuable factor, with their arrangements for work, play, rest, recreation and amusement, and further remarked upon the importance of the psychological element in recovery. Thayer also pointed out that "war statistics in regard to the duration of convalescence have shown the need of convalescent departments in connection with large hospitals, in which may be carried out every arrangement for the well-considered rehabilitation, mental and physical, of the convalescent patient."

Part of the proof upon which Thayer relied for this statement, is the exceedingly important work by Bridgman, who reported in 1919 upon his experiences in conducting a large convalescent camp in France. The general conclusion to be drawn from this work by Bridgman, should be widely published as accepted fact. He provides clear proof that the average patient who has been sufficiently ill to require the average length of stay of three weeks in an acute hospital, has also been sufficiently ill to require an additional average period of three weeks under observation in a convalescent camp or hospital, before he can be safely discharged with any assurance that he will be able to successfully hold down the job for which he has been prepared, both mentally and physically, during the period of his convalescent care.

The army provided an opportunity which can hardly be hoped for except in time of war,—that of applying, on a large scale, convalescent theory to convalescent practice. It was my privilege to be concerned in the originating and in the working out of some of this theory, and in its application to convalescent practice; first, while organizing and conducting a Convalescent Department at the Walter Reed General Hospital, and later while stationed as Consultant to the Department of Physical Reconstruction at the S. G. O., in which latter position the application of the policies of this Department to actual service conditions was largely under my control in the army hospitals throughout the northeastern states. Being at the time the only member of the Department who had had actual experience in conducting a convalescent department, I had the unusual pleasure of having practically all my recommendations accepted. The degree of influence which could be exerted upon convalescent practice at the army hospitals, may be suggested by the fact that a single report of mine was adequate for the obtaining, direct from the Secretary of War and in the face of active and powerful counter pressure, an order for the immediate closing of an institution which, on account of undesirable features connected with its continued operation, was proving a trial to the Department of Physical Reconstruction.

In general, convalescent problems in the army were much easier of appreciation than in civil life, for the care of patients of various ages and both sexes seems to complicate problems which become clearer when studied upon the more or less homogeneous stream of adult males which constitutes the army. Under such simplified conditions, one can more easily determine the time factor in convalescence; and one can more easily appreciate the need for and effect of such adjuncts to actual medical work, as Physiotherapy and Occupational Therapy. As a result of actual war experience then, there arose a clear perception on the part of many serious workers in the field of convalescence, that the immediate repair of the physical condition which brought the patient to hospital is not too difficult, provided that one may have the patient under observation for periods of controlled increasing exercise during which it may be definitely proven that he is or is not capable of the degree of physical activity involved in his return to his former full duty status.

Physical hardening was, however, by no means all that was implied in our army application of adequate convalescent care. For

more than a century, the French have been pointing out that the convalescent patient is in a state of mental and moral instability, a state in which the patient is mentally soft, hyper-irritable, and easily ductile both toward good and bad. It is therefore of extreme importance that this impressionable state should be made use of to the fullest extent for the purpose of guiding and hardening the patient mentally so that, upon his final discharge from medical supervision, he may arrive upon his job hard both mentally and physically, ready to take on permanently full-duty work without danger of relapse, and without the probability of days or weeks being required while on the job for the completion of the hardening processes which should have been finished before the patient left the care of the physician. In essence, therefore, the problem of convalescence is more a mental than a physical one, for unless the patient's mental disorganization be replaced by orientation he may, though physically fit, arrive on the job mentally handicapped for serious work.

Admitting the difficulty of singling out for special consideration one factor from the many which dovetailed to make the success of the convalescent program in our army, my personal conviction is that of all the measures employed, those activities grouped as Occupational Therapy were of the greatest value in facilitating convalescence, granting always a reasonable degree of skillful application of the other measures simultaneously employed. Occupational Therapy, though old in principle, was new in application in our army. The regulars looked upon it askance, but only until, it being in satisfactory operation, the truth penetrated and they were forced to admit not only a greatly decreased viciousness and destructiveness on the part of the patients, but an increased tractability and mental happiness,—a total result which all commanding officers recognized as making for easier and smoother operation of their hospitals. Thus was given new weight to the age-old deep-sea adage that "the way to keep your sailors happy on a long voyage is to keep them busy, but not too busy." On the old clipper ships, however, this did not mean keeping the sailors busy doing silly things, but things which even if fanciful or not absolutely necessary, yet contributed to the upkeep of the ship, and by so much increased the morale, which is to say, the pride of all concerned in the ship in which they sailed.

This cardinal principle of keeping the patient busy holds good today. The patient must of course have a reasonable amount of

amusement, but the best underlying basis for Occupational Therapy is the performance of necessary tasks of maintenance, the utility of which the patient can easily both see and understand.

Upon this background must then be applied a second cardinal principle of Occupational Therapy. It is the responsibility of those engaged in Occupational Therapy to see that from their efforts the result comes, that no patient leaves hospital or medical care without the conviction that, instead of wasting time as he had feared, he has, while sick and necessarily physically incapacitated, gained knowledge of such definite and lasting value that it will enable him to leave hospital better prepared than at the time of his admission, to do his work in the world; and to support his family upon a higher level than he could otherwise have hoped to reach. Thus only can the patient come to look back upon his hospital experience as a blessing in disguise, and thus only can the physician completely fulfill his responsibility to his convalescent patient.

Imagine for an instant, the effect upon family life which was in so many army instances brought about by such creative work. The laborer enters the army, loses a leg or two, and by and by returns to his home not as a crippled laborer but as a skilled artisan, who now may with his head in a day earn more than with his legs in a week. Such instances, as a result of army Occupational Therapy work, were almost too numerous to count. The shortest route by which a patient may be brought from a laboring status to that of an artisan is perhaps through the field of art; not what some might call high art, but the simpler forms of modeling; and drawing on the scale of perhaps poster work.

In my own Convalescent Department, even before the existence of an organized Department of Occupational Therapy at the Walter Reed, all patients under my care were required to engage in some form of Occupational Therapy for at least two hours daily, the character of the occupation depending upon the physical condition and mental calibre of the patient. From my own experience alone, one or two examples may be cited. A Swede, an intelligent but uneducated blacksmith, had been brought through double pneumonia, severe arthritis, endo- and pericarditis, and other complaints enough to finish the ordinary mortal. Recovering, he was at first interested in simple manual work for the purpose of restoring his joints to normal, and thereafter he was gradually brought to the stage of focusing upon

something of use after he should leave the army. The patient was slowly interested by me in the possibility of applying his native and very considerable skill as a blacksmith, through the medium of blue-prints, which he had previously been totally unable to understand. In a few short weeks, this Swede was doing blue-print work for one of the Government offices in Washington. It became possible for him to set up his own working drawings from actual measurements, and he returned home as a qualified worker in metals. The sequel was that within a few weeks this patient sent my head nurse a most excellent gold wrist-watch, accompanied by a touching expression of profound gratitude, and the statement that as a result of what he had learned at the hospital, he had been able to earn more money in the first month after his return home than in any consecutive six months of his previous blacksmith work.

Such experiences, multiplied, led to the inevitable conclusion that for the average class of patients, the greatest result for the least effort is obtainable through the application of Elementary Academic education. Eventually the Walter Reed had machine and other equipment for Occupational Therapy, valued doubtless in excess of $200,000, and yet the patients in many cases were unable to take advantage of this elaborate equipment through their lack of elementary education. The attention of the writer was therefore focused throughout the rest of his army experience upon the development of the Academic side of Occupational Therapy.

The growth of the Occupational Department at the Camp Upton Base Hospital is an excellent example of the utility of such simple procedures. Here an attempt had been made to interest patients, upon their arriving at a stage of progress which made it possible for them to navigate beyond the limits of their wards, the patients being largely of a class who had been for months confined to bed by infected bone wounds. At the suggestion of the writer, this futile attempt was given up, and attention was focused upon the patients who through continued disability were totally unable to leave the wards, or perhaps even their beds. In a few weeks, from a negligible number, the total of men who had been interested and who were actually working hard to improve their elementary education, had increased from practically nil to over 400, with the result that this hospital, though small, soon had a larger number of its patients enrolled in worthwhile elementary educational work than was the case at any other army hospital in the country.

Such developments cannot but have lasting and beneficial value to the community, and when applied in conjunction with other measures available, such as Physiotherapy, progress is practically unlimited. Thus, on one visit to the base hospital at Camp Dix, there was seen in the Physiotherapy room a young Italian with a seriously injured right elbow. He was lying on his left side on a plinth, and the Physiotherapy aide was massaging the injured joint. The patient was apparently wholly oblivious of the fact that his arm was being vigorously manipulated, except for an occasional contraction of the muscles of the face. He was completely absorbed in the reading of a small book which he held in his uninjured left hand. Investigation proved this book to be nothing more exciting than an elementary school type of English grammar. The inference is obvious.

One other of the fundamental principles of Occupational Therapy is worth remembering. Every patient in his progress from illness to health goes through what seems to be a mental reversion process, paralleled to some extent by the physical growth of the human embryo which ascends in its progressive growth through the lower and more primitive stages of development, before arriving at the stage of development characteristic of the human which it is to be. During his mental reversion process, the patient must successfully climb again through the stages of mental development characteristic of the child and of the adolescent, before he can with approaching complete recovery arrive once more at that degree of adult mentality which characterized his previous normal state of health.

Occupational Therapy must therefore at first be wholly diversional in character, as would be suitable for a child. In this phase, all handicraft work is of the greatest value as opening again to the patient the door of interest in his surroundings.

The greatest defect in the usual application of Occupational Therapy, however, is just this, that it often considers its responsibility to extend no further than this first stage of the patient's mental progress, whereby it by just so much falls short of what it should accomplish for the patient.

This first "kindergarten" or diversional phase of Occupational Therapy should be followed by a second transitional phase in which diversional or avocational work becomes increasingly replaced by serious work of lasting or vocational value, the transition keeping pace with the rate of progress of the patient through his mentally adolescent stage of recovery.

The third and highest adult phase of Occupational Therapy must be concerned, as in actual life, almost wholly with serious or vocational work of permanent value. In this phase is included that opportunity for mental and moral uplift which may change for a patient his entire viewpoint and future direction in life. The mentality of the patient at this stage is not passive, and it is the responsibility of Occupational Therapy, as of the other factors concerned in convalescent care, to utilize this mental activity to its fullest extent while the mind of the patient is still in an essentially fluid and plastic state; this responsibility breathes unending possibilities to the Occupational Therapy worker alive to and fitted for improving the opportunity thus presented,—that of mentally molding the patient for the better during the progress of his convalescence.

Lest some one may come to think that the procedures just outlined can apply only to longtime convalescence, thus making them inapplicable to those convalescing more rapidly, the following conversation between myself and a very capable Director of Occupational Therapy at Camp Devens is quoted in substance as follows:

"There is a widespread belief that your procedures can be applied with benefit only to those patients who are to be available to you for weeks rather than days. What is the shortest time in which you can feel certain of giving a patient something to think about, which will stick and keep on making him a better man after he leaves you and the hospital?"

"If I cannot give any man not a moron, good reason to be glad he came to me, within four days of the time I first see him, I will give up my job. You can take it from me that this work is one of the biggest opportunities for human betterment which a hospital can offer a sick patient, and you can do just as much for an acute case as for a chronic one, if you know your job."

IV—Convalescence in Civil Life

Turning from the study of the simpler convalescent problems of the army to those existing in civil life, it becomes obvious that the principles of treatment are the same. Furthermore, it is the opinion of Brush of the Burke Foundation, that a mixing of the sexes under supervision, as at his institution, is desirable; he believes that this mixing of ages and sexes produces a mental background which more nearly resembles the age-sex mixing of the normal life for which his patients are preparing. There seems no good reason then to infer

that the convalescent problems of civil life need be in practice much more difficult of solution than those presented in the army.

Convalescent work in civil life can be made effective at four principal points of application, regardless of the financial status of the patient. All four have been covered in my personal experience. These four usual points of application are:

(a) Within the acute hospital.
(b) In the outpatient department.
(c) In the home of the patient.
(d) In a Convalescent Home.

(a) At the Walter Reed General Hospital, my Convalescent Department functioned as a separate unit but within the hospital wards, cases being transferred to the convalescent department from both the medical and surgical services. The important principle was here established, through the S. G. O., that the Convalescent Department should not be under the control of the regular medical services responsible for the care of the acutely ill, but should report independently and directly to the Commanding Officer, in all administrative matters. Concerning the desirability of having in operation such a special convalescent service under the roof of a large general hospital, the following sentences quoted by permission from a letter written to Dr. Richard Cabot in 1919 by Dr. Randolph, the then chief of the Medical Service at the Walter Reed, are suggestive: "Major Bryant's experiment at the Walter Reed Hospital has in my opinion demonstrated a successful method of dealing with a situation which constitutes a legitimate ground for criticism of our profession, both in medical and private practice; and one which contributes largely to the prosperity of quacks. I feel that it is the one original contribution to medical progress during the war by the Medical Service of the Walter Reed Hospital."

(b) An outpatient convalescent clinic has been conducted by the writer, at the Massachusetts General Hospital. The number of cases which can thus be cared for personally can never be large, since they are for the most part chronic and obscure, but it has been possible to eliminate from the outpatient department circulation yearly, certain patients who might otherwise have remained in the class of "half-cured." This method must, however, remain less productive, in proportion to effort expended, than group care in an efficiently organized Home.

(c) Although for obvious reasons the bulk of convalescence probably always will take place in the homes of the patients, evidence is available to prove that in the great majority of cases home conditions are not adequate. The attempt must therefore be made, not only to improve home conditions through visiting nursing and social service agencies, but also to provide a substitute in the guise of a well-conducted Convalescent Home, and then make it the mode for patients to use it. When it is necessary to provide convalescent care for the patient in his own or another private home, the same principles apply which have proven successful in the well-organized Convalescent Home, as outlined below.

(d) Of all means at our disposal, the efficient country Home is undoubtedly the best single opportunity for creative and constructive convalescent work. Here everything is favorable, and costs are low. Also, the value of the well-conducted Convalescent Home as a dispersion point for spreading health gospels in the homes of the graduated patients, can scarcely be overestimated; and, if well conducted it must act not only to set a standard but to raise the general level of convalescent care in the surrounding community. For obvious reasons, it has been proven wiser for a community to maintain one centralized Home of from one to three hundred beds, than for it to provide an equal number of convalescent beds scattered in several Homes of twenty to thirty beds each.

Regardless of the number of beds involved, however, there should be no deviation from the established army principle that a Convalescent Hospital should not be under the domination of any general hospital service with which it may be affiliated. All branches of the hospital plant should report directly and independently to the controlling board of management.

The conduct of a Convalescent Home involves practical questions, such as costs, size of staff, sources of maintenance, etc. Facts and figures upon all these points are readily available, the most authentic source of information in this country being the Burke Foundation at White Plains, New York; Dr. Frederic Brush, its director, will prove a fertile source of information and inspiration to those seeking knowledge in this newer field of medical endeavor.

In general, it may be stated that a modern Convalescent Home should function through a City Admission Office which may act as an

important factor in correlating city health activities; and it should utilize a motor service for the transportation of its patients. If the patients are trained to be properly helpful, not more than one nurse to every thirty to fifty patients will be required, and the cost of maintenance per patient under these conditions should not exceed $2.00 per capita per day.

Unless a Home is endowed, at an approximate cost of one million dollars for every fifty beds available, the sources of maintenance are important. These may include the usual personal subscriptions and, if the Home accepts patients from more than one source, funds contributed by hospitals sending patients. These hospital funds may be calculated upon a basis such as the number of expected days of maintenance saved to the hospital by the early transfer of the individual patient to the Convalescent Home. In England, a simpler method is used, the acute hospital contributing toward the maintenance of the Home a fixed amount representing the actual per capita cost at the Home for a definite number of beds, by the week, month or year; in effect, the hospital thus rents its convalescent beds. Also, when possible, the patients themselves should contribute something, from a few cents to not exceeding two-thirds the actual cost per capita, whether their admission source be a recognized hospital or a private physician sending the patient direct to Convalescent Home without hospital intervention. In addition, both life insurance companies and industrial corporations should be enabled to send patients for preventive convalescence, on certificates from company physicians, through the medium of annual subscriptions to the Home, (based on actual per capita maintenance cost of a definite number of beds per year), as is the custom in England and France.

The most important single point in relation to the use of Convalescent Homes, is that they should be so arranged as to make possible the acceptance of patients immediately upon their discharge from an acute hospital. It is too often the case that the smaller Convalescent Homes are not prepared to accept patients until they are practically able to look out for themselves. As a result, the poor convalescent must exist somewhere, and in some manner become sufficiently recuperated to be accepted as a patient in a Convalescent Home. This means that during the most vital stage of convalescence, the first week or two when the patient has, so to speak, only one leg out of bed, he is

left without supervision instead of being carried forward in his health progress in a continuity of medical supervision directly from the acute hospital to the Convalescent Home.

St. Luke's Convalescent Home in Boston is an example of one of our earlier homes which was not until recently fitted to receive patients directly upon discharge from hospital, with the result that it was tending to become more or less of a home for the aged. Having been called in consultation by its board of management, it was my privilege to make suggestions (nearly all of which have been carried out), which have resulted in making it possible for patients to be received there directly upon discharge from hospital. As a consequence, instead of its being necessary to seek patients to fill the Home, it is my understanding that the Home now has more applicants for admission than it can accommodate, and that these are mostly younger patients, the class which derives the greatest benefit from convalescent care.

For maximum efficiency in the actual medical management of the Convalescent Home, there are four factors which must work harmoniously. These factors group together to make what may be termed a Convalescent Unit, as follows:

(A) Medical.
(B) Physiotherapy.
(C) Occupational Therapy.
(D) Social Service.

Such a convalescent unit can be multiplied so as to have one unit acting at each of the four points of application of convalescent work above referred to, or there may be one such unit in operation at an independent Convalescent Home. Obviously, if conditions permit, the workers in groups B, C, and D may be active both at a Home and at a general hospital.

In practice, the component parts of such a unit, acting through a single medical director who may of course combine in himself the training necessary for applying all these factors, subdivide as follows:

(A) Medical.
  (a) Differential Diagnosis.
  (b) Mental Care.

(c) Medical Care.
(d) Diet.
(e) Exercise.
(f) General Hygiene.

(B) Physiotherapy.
(a) Electrotherapy.
(b) Hydrotherapy.
(c) Heliotherapy.
(d) Mechanotherapy.
(e) Physiotherapy.

(C) Occupational Therapy.
(a) Curative Therapy.
(b) Vocational Therapy.
(c) Occupational Therapy.
(1) Technical.
(2) Academic.
(3) Handicraft.
(4) Recreational.

(D) Social Service.

It may be questioned if Social Service should be grouped as a component part of such a convalescent unit, but it is the decided opinion of such authorities as Miss Cannon of the Massachusetts General Hospital, and the experts of the Cleveland Hospital and Health Survey, that Social Service distinctly should act under the supervision of the physician responsible for coördinating the activities which should group together in such a convalescent unit as is above outlined, for the worthy purpose of aiding in eliminating the clinical neglect which has been the prevailing attitude towards the convalescent patient.

Exception doubtless will be taken to the repeated accusation of clinical neglect of the convalescent patient. In this connection, an incident at the Bellevue Hospital is instructive. While stationed at the Surgeon-General's Office, the writer was invited, through the courtesy of Dr. Denman Thompson, to present the subject of Convalescent Care before a meeting of the Executive Committee of the Bellevue Hospital. At the close of my brief presentation, a long

thin major arose at the other end of the table from where I was sitting, and made vitriolic objections to my inference that any one in his hospital should be in any way neglected. He said that naturally he could not speak for the other services, but that he was positive that no one would find any trace of neglect in his own service in regard to any patient whomsoever. At the close of his heated remarks, the then chairman, one of the best known and most respected of the older physicians of New York City, smiled pleasantly and spoke about as follows: "Well, Doctor, I am glad to hear what you say, and I congratulate you upon being able to maintain such an excellent standard of service. For myself, I can only say that when I was on active duty at this hospital, my convalescent patients were all neglected, relatively speaking; furthermore, I know that today my convalescent patients in my own private practice are all neglected, as compared with the attention that I must give to those who are more seriously ill." This reply sums up the whole situation.

It is not rational to expect a continual series of psychological miracles, even of physicians. The physician in charge of an acute hospital ward or wards naturally resents the statement that he is, so to speak, thereby unfitted to give maximum care to his convalescent patients, as soon as they have passed beyond the acute medical or surgical stage of the disease for which they entered his service. It is, however, just as impossible to expect the physician whose medical time schedule is scaled upon the rapid changes accompanying grave illness or preceding sudden death, to focus simultaneously upon the slower and less obvious changes of convalescence, as it is to expect of the mariner an equal and perfect vision in both eyes, when he is required to employ a binocular glass one eye piece of which is set for near vision while the other is set for distant vision. No sane person would expect the mariner under such circumstances to obtain maximum simultaneous visual results from both eyes. Likewise, no sane person should expect the same physician to get equally good simultaneous results upon two types of cases differing as greatly in their normal time schedules for physiological reactions, as do the acutely sick patient and the convalescent patient.

The size of the convalescent problem in a given community, and the degree to which the community is caring for the problem, may

be easily estimated on the basis of figures available. It is authoritatively stated that there should be about five acute beds per thousand of population, and that there should be one convalescent bed for every ten acute beds. On this basis, let us examine the convalescent facilities of Boston and Fitchburg.

Metropolitan Boston with a population of about one and a half millions has slightly more than seven thousand acute beds, or about the normal number. There should be available some five to seven hundred convalescent beds. The convalescent beds in recognized institutions of Boston, excluding certain institutions for children open only in the summer, total less than three hundred, and these are by no means utilized to capacity. Of this total number, seventy-five beds are for children only. This state of affairs signifies lack of appreciation of the possibilities of convalescent care. Neither the convalescent patients nor the lay public are primarily responsible for this failure to utilize even these inadequate existing facilities for convalescent care. For the whole million and a half of Boston's population, there are but fourteen convalescent beds for males available in any recognized Convalescent Home*, and these in one Convalescent Home usually not filled to capacity. These fourteen beds, furthermore, are free only to patients of the parent Homeopathic Hospital. What a contrast is Boston to Paris, which for over sixty years has required a six-hundred bed hospital at Vincennes for the adequate accommodation of its male convalescents alone!

The figures for Fitchburg, given by Dr. Baker, are as follows:

Total population	57,660
Total acute beds	125
Total convalescent beds	0

From this it would appear: first, that there are only about 50 percent of the expected number of acute beds in Fitchburg; secondly, that there are no beds at all for convalescents. Unless Fitchburg is very fortunate, the acute beds now available should be greatly in demand, there being only one-half the number estimated as requisite

* This Home has since been closed. Boston is now (1927) absolutely without beds for male convalescents with one exception; the Jewish Frauen Verein Convalescent Home reserves 17 of its total of 43 beds for the use of men.

to meet the community needs. It might then be desirable to have an increase in the number of acute beds. It is probable under existing conditions, that at any time there are in the Burbank Hospital a total of 10 to 20 percent of the patients who could stand and would benefit by transportation to a country Convalescent Home where the balance of their care could be given in an atmosphere radiating returning health instead of serious illness and possible death. Furthermore, this beneficent physical and mental change would be accomplished for the convalescent patient at a decrease in expense of one-half to two-thirds that involved in continued maintenance at the Burbank or any other acute hospital.

Continuing transfer of these convalescent patients to a country Home would be equivalent to a 15 to 20 percent increase in the size of the present hospital. Would any other methods which can be suggested provide a similar increase in the percentage of beds available in the acute hospital, with as great ease or with as little expense to the benefactors from whom all medical work must derive its fundamental support?

Is it too much to hope that, after reflecting upon the situation, some wise Samaritan may feel inclined to try the experiment and donate to Fitchburg a group of farm or other suitable buildings well located and within the motor transportation limit of one hour from town, capable of maintaining some thirty to forty convalescent patients? Facts and figures are available to provide a close estimate of the cost of maintaining such a home. It should provide in the first year for the care of over four hundred patients, both medical and surgical, of both sexes and all ages except young children, at a total gross cost for running expenses not in excess of $20,000. This total gross expense should, however, be decreased by one-third or one-half through the receipt of fees from patients alone; it should be further decreased by the receipt of funds from the other sources of maintenance previously mentioned. All patients should themselves whenever possible pay something, even if only a few cents; but no routine patient should be allowed to pay more than two-thirds of his actual maintenance cost. Discipline is much more easily maintained under these circumstances than otherwise, and no Convalescent Home can fulfill its duty to its patients or hold their continued respect unless fundamental discipline is enforced.

Surely this convalescent experiment would be a worthwhile adventure in public health. Also, it would put Fitchburg at once in the front rank of cities of its size in Massachusetts with regard to convalescent care; and Convalescent Homes and convalescent care represent a coming fashion in preventive medicine and public health work.

It is perhaps safe to predict that before so very long there may even be a state organization for promoting convalescent care. We may then expect that such preventive work may tend to make less imperative the increase of Homes for the Incurable; and we may hope that it may tend to halt the increasing tide of deaths from the common diseases in early middle life, due among other things to an increasing tendency to pneumonia and heart failure on the part of our increasingly exhausted groups of half-cured patients,—those sad derelicts who represent the backwash of modern scientific medicine.

A workable outline for the economical statewide care of convalescence is not difficult to construct. It would depend upon having Convalescent Centers located throughout the state, in connection with the larger cities but taking patients from the smaller towns within a radius of say twenty miles from the location of each Convalescent Center. On this basis, there would be perhaps fifteen Convalescent Centers for Massachusetts, and Fitchburg would be the base of one such Center. This may sound fantastic. It would, however, be but a logical outgrowth of the proven proposition that it is more economical and more efficient to maintain convalescent patients in groups or colonies of one to five hundred each, than in the smaller now customary isolated groups of twenty to forty each.

For the development of such a program of Convalescent Centers, a basis exists in the idealized convalescent colony long since proposed by Dr. Mock of Chicago. This Convalescent Center or Colony, based upon a larger city, would be in effect a cottage settlement with its own health, educational and amusement systems, where hundreds of slowly recovering surgical patients might even succeed in financially supporting prolonged existence under conditions ideal for maximum recovery of earning power. But beyond this obvious work, such a center would also offer hope of health-progress and recovery of strength, not only to those suffering from the traumatic injuries of industrial warfare, but to those now neglected because less visibly

though none the less actually crippled, convalescents from our never-ending warfare with disease.

V—Summary

1. Experience accumulated through the centuries, both in army and civilian life, demonstrates the wisdom and necessity for better private and community care of the convalescent patient; for today as in the past, the convalescent patient suffers from clinical neglect.

2. This clinical neglect is at least in some degree due to a failure on the part of the medical profession to take into consideration a time factor fundamental in all medicine. Thus, it is at least a psychological improbability that the practicing physician will ever focus simultaneously and with equal clearness upon two classes of cases which differ so greatly in their normal time schedules for physiological reactions, as do acute cases and chronic or convalescent cases.

In the acute cases, both medical and surgical, one may see death or immediate recovery from critical illness and all the changes in between, passing in review within a period of ten days.

In the chronic or convalescent cases, on the other hand, the same series of changes may not be expected to occur in less periods of time than weeks, months or even years.

It is the physician who varies, not the average time factors in the two classes of cases under consideration. Therefore, it is scarcely logical to expect the chronics and the convalescents to receive optimum care until the physicians themselves alter their methods of meeting fixed conditions: one group of physicians must, as now, be trained to care for acute conditions; but a second group of physicians must in the future be trained to focus on the slower-moving procession of events which nature displays against the background of the chronic invalid. It is these latter, the chronic invalids, who today present the greatest challenge to physicians, precisely because the changes in chronic medicine are less obvious, less rapid, and proportionately more difficult of recognition.

The teaching in our medical schools is today so directed toward the critical and the obvious that it is often years after graduation before the physician learns through repeated failures, to probe into the mystery of that which is human in his patients, through increased understanding of those lesser changes which characterize the fluctuations of poor health in the invalid.

It is to be hoped then, that one rational even if radical preliminary step toward the better care of convalescence may be made by admitting the existence of that which always has existed and always will exist,—a differential time factor in medicine. Once this is conceded, special training for chronic medicine must follow. The invalid will turn his face less often than in the past away from the medical profession, and the convalescent patient will not longer be forced to remain in wards filled with the acutely ill, where he must inevitably be pushed toward the periphery of medical memory by the pressure of serious illness which, as is its right, claims precedence over all conditions less potentially fatal.

3. There can be no doubt that the medical profession is under suspicion of neglecting its duty and opportunity in regard to convalescence. Should further causes predisposing to this undesirable state of affairs be sought for, that very growth of our hospital system to which we point with such pride as evidence of our progress in the scientific medical care of the sick, might itself in part be found to blame. For it is at least conceivable that an inadequately defined division of responsibility for the care of the patient, as between the private practitioner and the hospital, would prove an important etiological factor.

Formerly, with hospitals looked upon as the unusual, the practitioner had perforce to assume in most instances the entire continuous responsibility for his patient. Now, with hospitals on every hand, it is the usual practice to send the very ill patient from the home to the hospital.

But this procedure of transfer of the patient from home to hospital, so desirable from other points of view, of necessity creates a break in that continuity of supervision and of responsibility which is so vital a factor in the patient's uninterrupted progress toward health. The hospital, in need of beds, may send the patient home too soon. The physician may feel that continuity of care would best be served if the hospital should return his patient to him not when recovery from illness has become a probability, but when it is a demonstrated fact—on the ancient principle that it is not desirable to swap horses in the middle of the stream. The patient, lost between these two points of view, may fail to recover properly or completely, and understanding only this glaring fact, may be forgiven if he seeks relief elsewhere, even at the hands of quacks and cults.

Both the physician and the hospital are right, and both are wrong. It is the responsibility of the hospital to see that the patient has arrived at a satisfactory stage in his progress toward health before he is turned back to the care of the physician, but there is a limit to such responsibility. Where does this limit come? Here is the crux of the whole situation.

Until some more final authority is available, we should do well to take our cue from Bridgman, and determine with him that the responsibility of the hospital for the average patient who has been sick enough to require the average stay of three weeks in an acute hospital, does not cease until such a patient has been given an additional average of three weeks of skilled care in a well-organized Convalescent Home. Then only can the hospital say with confidence and some assurance of truth, that its work is finished and its responsibility fulfilled; and that all responsibility for the patient's future welfare should therefore, from the date of discharge from hospital be assumed by the private practitioner who originally sent the patient to hospital for the relief of acute and serious illness. Under some such clear-cut division of responsibility the physician would less often face the care of a half-cured patient, and the patient, freed from the double fear of exhaustion and relapse, could look forward more confidently to that fully regained earning power which after all is the only true test of complete recovery from previous illness.

4. Convalescent care when properly applied hastens and completes recovery of the patient, frees acute hospital beds for their proper use, saves money to the community, and saves the medical profession from the now too frequently justifiable reproach of clinical neglect of the convalescent patient.

5. Convalescent care may be applied within an acute hospital, through an outpatient department, in the home of the patient, and in an organized Convalescent Home. For obvious reasons, most convalescence will always take place in the home of the patient, but convalescent care is most efficiently applied through the medium of a well-organized country Convalescent Home of not less than thirty to forty beds in size. Maximum economy is only obtained when the Convalescent Home is of one hundred beds or over, in size. Such a home can with advantage care for patients of all ages and both sexes under one organization, at a daily cost not in excess of $2.00 per

capita. Medically, such a home yields good results, twelve months in the year, not only to the usual medical and surgical cases, but also to such borderline cases as the mildly psychiatric.

6. Maximum efficiency in such a home results only when Medical, Occupational Therapy, Physiotherapy, and Social Service factors work harmoniously together under the direction of a physician skilled in convalescent methods; one who does not assume responsibility for patients acutely ill, and who must in all matters of medical policy be independent of those in control of the acute medical and surgical services of the general hospitals.

7. Adequate facts and figures are easily available to guarantee effective progress at a reasonable cost, for all convalescent work seriously undertaken for the purpose of eliminating clinical neglect of the convalescent patient—a neglect which is the last remaining serious gap in our public health cycle.

8. Unbiased consideration can inevitably lead but to this one conclusion: that no valid objection exists for longer acquiescing in an inertia which paralyzes hope of progress in this important field of preventive medicine, one in which Convalescent Homes present the only rational alternative to an increase in Homes for the Incurable.

9. At the risk of being considered visionary, one may at least anticipate the development of a future state-wide organization which will have as its objective, the efficient application of available proven modern methods to the problem of caring for convalescent patients, in such a responsible and satisfactory manner as to make impossible in the future, the present-day too justifiable reproach that the medical profession neglects its duty and opportunity in regard to convalescence; and in such a manner that eventually the gap through which the cults now stream to feast upon the too frequent half-cured product of our modern hospital system, shall cease to exist for the final reason that the patient will be too content with trained medical supervision, for it even to occur to him that he could find elsewhere to better advantage that which it is his right to seek,—recovered health and earning power.

An organization such as that anticipated could to advantage operate through the medium of large country Convalescent Centers which, though based upon the larger cities, would be available to patients from the smaller towns within a motor transport radius of twenty miles from each such Convalescent Center.

VI—Conclusions

1. The convalescent patient today suffers from clinical neglect.

2. The convalescent patient will continue to suffer from clinical neglect until it is realized that in addition to disease factors there are fundamental and unchanging time factors in medicine. These time factors make it as psychologically improbable that the practicing physician will ever be able to focus simultaneously upon acute and chronic medicine, as that the mariner will ever be able to get maximum simultaneous binocular vision through a pair of marine glasses, one eye piece of which is adjusted for near vision, while the other eye piece is adjusted for far vision. One solution presenting, is the recognition of time factors in medicine, with a resultant education of two groups of medical workers. The first group should be concerned with acute, and the second group with chronic medicine.

3. The clinical neglect above referred to may also be due at least in part to an inadequately defined responsibility for the care of the patient, as between the private practitioner and the general hospital. We conclude with Bridgman that the responsibility of the general hospital should not cease until this hospital has provided for its average patient who was sick enough to require the average of three weeks in the acute hospital, an additional average stay of three weeks in a modern Convalescent Home. Thereafter, the private practitioner could resume complete responsibility for the care of his patient, with some assurance that as a result of its specialized facilities the general hospital had accomplished for his patient three definite results: firstly, it had guided him through the phase of possible sudden death; secondly, it had guided him through the phase of frequent immediate relapse; thirdly, it had during the second phase in the Convalescent Home, so hardened the patient both mentally and physically as to make it possible that he could without fear of subsequent relapse take up again immediately after his arrival at home, full-time productive work in shop or office. Such a system would make it possible for both patient and physician to cross off the mental slate entirely, the serious illness for the better care of which the physician originally sent his patient to hospital.

A clear cut apportionment of responsibility such as that just outlined could not but work to the ultimate advantage of the hospital, the physician, the community, and last but not least, the patient him-

self. It would in the truest sense further the cause of preventive medicine and the public health.

4. Adequate utilization of the possibilities of a modern well organized country Convalescent Home offers what is today the best answer which the medical profession can make to the increasingly frequent question from the laity,—"What are you going to do about better care for the convalescent patient?"

PART III

I

Progress: 1921-1927

I—Literature

A review of the usual sources for medical literature, yields a total of 37 articles which, during the years 1921-1927, have been considered of sufficient importance to be listed in these sources under the heading of "Convalescence."

It is perhaps worth noting that in 1923, when a maximum of nine papers appeared, two of these nine papers were credited to Dr. Frederic Brush, and four to the writer; in other words, Dr. Brush and the writer together would seem to have contributed over 60% of the total literature upon Convalescence for the year 1923, a state of affairs which does not suggest a satisfying diffusion of interest in Convalescence.

The total output of papers since 1921 has not been large, but the quality has been reasonably high. As a result, the new worker in the field of convalescence will now find available a fund of experiment and experience upon which he may draw for solid foundations of further personal work; he will not, as earlier workers have been, be obliged to grope somewhat uneasily in an almost untilled field for reliable building materials with which to erect the lower courses of a new edifice which a vivid imagination may have pictured as already in existence and in successful operation.

1921

Burns[18] outlines, with especial reference to the importance of social service work, a series of seven methods by which the hospital may assist in smoothing the course of convalescence in the homes of the patients.

Hall[22] emphasizes the fundamental importance of careful gradation of effort in the restoration of lost function, insisting that with-

out voluntary effort, adequate progress may not be obtained. Hall also states that the ability to accomplish definite and prescribed tasks without fatigue tends to become a reasonably exact measure of progress toward completed convalescence.

Kahn[23] in the course of an article upon procedures for the better care of convalescent children, devotes a few paragraphs to the growth of convalescent homes in the United States, and quotes from a New York Hospital Society report of 1915 by Mr. Edward W. Sheldon, to the effect that "as early as 1801, the New York Hospital Society recognized the need of special care for convalescent patients, and provided this care at the New York Hospital in the spacious grounds surrounding the buildings." Kahn also notes that the histories of the early institutions for convalescents indicate "the first steps of the whole convalescent movement in this country. The need for convalescent care was recognized in each institution by an individual or a small charity group who started a home usually on a moderate scale and expanded as the demand for more beds increased."

Mackay[30], in an historical sketch of the Thirteenth Century Hôtel-Dieu of Paris, notes that "In the Salle Saint-Dennis, which contained 80 beds, were placed the less serious cases. The infirmary, with its 54 beds was reserved for those dangerously ill. Convalescents went to the Salle Saint-Thomas, where there were sixty beds. Although women as well as men were admitted to all wards, there was one known as the Salle, or Salle Jaune, for women alone. It contained 80 beds. In accordance with the custom of the times, the placing of several persons in one bed, the Hôtel-Dieu permitted two in one bed, but never more."

Muir[31] devotes a short illustrated article, to some of the special ways in which occupational therapy has proven helpful in the convalescence of women at the Burke Foundation.

Sinclair[33], writing as Supervisor of the Admission Department of the Burke Foundation, upon "The Convalescent Provision and Needs of New York City," presents the results of a careful inquiry into the convalescent situation in New York, the study having been made through the Sturgis Fund of the Burke Foundation.

> The purposes of this study are to determine our most pressing convalescent needs, and to aid in filling them, either by the addition of new homes or through readjustments and better coördinations in the existing organizations. Clearer information and plans are just now desired by those called

upon to consult and direct in this line; for various convalescent efforts are frequently failing, or falling short of reasonable efficiency.

The large amount of data covering the allied lines of health effort as well as convalescence, and drawn from the extended areas that serve the city, has been mainly obtained through the hearty coöperation of the various health workers—and our thanks are here given them. The conclusions are to be taken as their concensus, and not mainly as of the Burke Foundation, whose large experience has merely contributed valuably.

New York City fills a year-round average of about 1,500 convalescent beds (men, women, and children, free and part-pay); it should have at least 4,000 beds, according to the fairly well accepted ratios for large American cities. Considerable extensions are in prospect, but probably more may be accomplished by retiring from this ideal requirement and concentrating upon the immediate and unfortunate deficiencies. There is, first, a wide and persistent demand for more general adult institutional convalescence; and men, having access now to only one-third as many beds as women, should come first in the provision. (It is thought that the ratio should be only about two to one in favor of women). Additions of funds and facilities to established homes undoubtedly offers the best means of meeting this essential health requirement, but new places will be enthusiastically welcomed.

There are, however, nine other narrower, specific convalescent needs (lapses or gaps in our daily health work) which have been agreed upon through this investigation as most worthy of immediate and persisting effort to supply.

Sinclair's intensive study of the convalescent situation in New York, is summarized in the following conclusions:

1. New York City's health requirement is upward of 4,000 year-round country convalescent beds, with present population and usages; only about 1,500 are on the average now available.

2. Certain needs (calling for 400 beds) are pressing: for nervous and mental borderline patients; older boys; mothers with infants and also detached small children; colored convalescents (all kinds); some extensions in heart disease; lung borderlines; orthopedics and bone disease; and special dietary patients. Adequate pay convalescence is being definitely planned for.

3. Additions in the border and interlocking health fields will aid measurably in closing these gaps—fresh air

and vocational outlets on the one side, with more institutions for chronics, defectives, the aged, etc., on the other; also through more special clinics, home convalescent supervision, etc.

4. Changes and adaptations in going institutions, in classification, admissions and follow-up will help directly to lessen these convalescent needs. Here lie the opportunities for immediate advancement, with little added expense. (Changing some summer places to year-round service would e. g. triple their efficiencies at moderate advance of cost-maintenance.)

5. Convalescent costs and methods are fairly standardized and information is readily obtainable. It is a growing and attractive movement, in which valuable pioneering and research are well under way. Advantage should be taken of this up-wave impulse to add many convalescent places, large or small, to the city's health-making facilities.

Wood[36] gives suggestions based upon practical experience with convalescents at the Burke Foundation, indicating both some of the special ways in which convalescent nursing may appeal to the nurse, and some of the ways in which it may be expected to benefit the patient. Attention is also directed to the mutually helpful manner in which patients near to recovery may help in the care of patients who have only recently begun to convalesce.

Wright[37] discusses the establishing or continuing of farms in connection with the institutions for convalescents, and concludes that such farms will probably result in a moderate loss. On the other hand, many well-established places continue to conduct gardens and general farming. This therefore must be because of definite gains other than money profit. He concludes that it is perhaps worth while for a favorably placed institution to lose a little something on its farming, partly in order that it may refer to its home-grown vegetables, and partly because of the benefit the farm and garden work may be to the patients themselves during the six to nine months in which some form of such work may be carried on as an outdoor physical and mental occupation. Wright states that many places have "found by experience a suitable ratio of garden to other activities and none would discontinue the procedure because the other auxiliary advantages outweigh the moderate monetary losses."

Wright quotes the valuable experience of the Burke Foundation, an institution maintaining over 300 patients and 100 employees upon its 60-acre plot, where after seven years of experiment and fairly ac-

curate accounting, the farm work has settled down upon a basis of a ten acre farm garden with no live stock, this farm garden providing about one-third of all the fruits and vegetables used by the institution. In this case, the organization has been simplified until one head has charge of the garage, gardens and grounds, the garden thus being carried as a side issue in the upkeep of the extensive grounds. This method makes it possible to change men and horses from garden to lawn care; and to transportation of patients and supplies, in accordance with the fluctuating daily needs.

Wright gives the following list of farm products which have proven satisfactory; lettuce, sweet corn, onions, radishes, tomatoes, carrots, turnips, parsnips, parsley, cabbages, celery, and rhubarb. Potatoes he considers are best bought unless exceptional conditions obtain, but asparagus and strawberries may perhaps be grown under favorable conditions.

The technique of gardening is somewhat specialized, and unless there is close coöperation between the dietitian and the gardener, there may of course easily result various difficulties such as wrong planting, crop rotation, surplusage, kitchen waste, expensive seasonal lacks, and at times unbalanced diets.

1922

Bryant[7] presents* a chronological review of the literature on Convalescence, to 1878.

Clark[19] outlines the possibilities for usefulness of the Valeria Home in Westchester County, New York. It controls 1000 acres of land, and offers accommodations upon the cottage plan for 74 cases, men, women, and married couples. The scale of building is elaborate, and the rates are not excessive. The object of the Valeria Home service is considered to be the prevention rather than the cure of chronic illnesses. Therefore, no special therapy equipment is provided, and only such supervision of individual action is enforced as tends to make group life better and more helpful.

Levinson[27] states that in order to be most useful to its surrounding community, the convalescent home should be more than a rest cottage. He rightly holds that it should be the center of instruction for mothers and other relatives concerning the best methods of caring for the child who has recently been ill; above all, it should be a source of instruction concerning the best methods for keeping the child well.

---

* See page 1.

1923

Bryant[9], [10] offers two additional articles* which bring his chronological review up to 1920. Bryant[11] also gives a review† of the work of the Burke Foundation; and a paper[8] on "Convalescence‡: A Problem in Preventive Medicine and Public Health."

Brush[4] in a paper on "Convalescent Care in Suburban Communities," quotes, from the National Directory of Convalescent Homes (published by the Burke Foundation) figures which indicate a total in the United States of approximately 8,980 convalescent beds. Of these, 1,710 are in nine western and 7,270 in fourteen eastern states; and it is of interest to note that though some of its homes are in other states, nearly 50% of all convalescent beds listed for the entire United States, serve exclusively the convalescent patients of New York City. Such concentration is clear evidence of an existing lack of appreciation of convalescent problems, outside of the New York area.

Brush considers the convalescent needs of Westchester County, which, with its population of nearly 400,000 people, should have according to accepted standards, a total of two to three hundred beds available for year round use. He concludes that although suburban and rural communities need a less population-proportion of convalescent bed facilities than large cities, the lower ratio need is at least equally valid and pressing.

Brush states that the reproach of medical and public health practice today is in the neglect and failure of follow-up care of convalescents, chronics, and the various borderline and mental ailments. He adds that convalescent care in practice covers in some degree this entire health zone and is of the opinion that "there is fortunately a revival in this branch, after more than a half century of lethargy."

If one asks how the modern convalescent institution functions in bridging this recognized public health dead-space, the reply is that it is "by giving time, peace, and rest, and a new advanced reconstructive training and viewpoint, to its variously sub-normal patients. These three vital elements to full recovery and re-entry to a higher grade of living are precisely what cannot be obtained by remaining longer in hospital, nor in the average household."

Brush concludes as follows:

> Community convalescence is economically and medically the soundest health measure awaiting general adop-

* See pages 27 and 39. † See page 51. ‡ See page 195.

tion—now that infectious disease prevention and social service are so well established. A few American cities are beginning to plan convalescent plants in their health and industrial programs, essentially along with hospitals, dispensaries, sanatoria, home visiting services, etc. All populous and fairly concentrated communities should so plan and provide, for their rating in public health will be more and more determined by their records in prevention, and in care of the subnormal borderliners.

The definite position of supervised country convalescence in the health-effort cycle may well be further indicated by examples: Great numbers of the shorter-term medical and surgical cases (exampled by pneumonia, hernia and appendicitis) are given from one to four weeks of rest, grading into near-normal activity, and sent back to full physical and social restoration; without such term many of these work too hard too soon and drift into relapse, semi-invalidism and low-grade living; they clog the dispensaries and make incomes for the charlatans. Note that this very class is then best lifted back to normality by re-diagnosis plus a fairly long country re-construction plus right employment-placing and long follow-up; a result only attainable by having the Convalescent Home outlet. The country Home relieves the hospital and the family and sooner and surer restores all forms of tuberculosis (excepting active pulmonary), heart disease, rheumatism and chorea (taken up to degrees of moderate crippling), many border nerve and mental states, thyroid disorders, orthopedics, empyema, lung abscess, nephrectomy, osteomyelitis, and like protracted ailments. Furthermore, the term in the Home is being much used as a testing of diagnosis and previous therapy, and of the patient's temperament and fitness for follow-up readjustments. The list of diagnoses for a year of six thousand admissions at the Burke Foundation includes about all the terms of medicine.

The above is the fairly understood and obvious convalescent classification; but quite equal in quality of result, and gaining in numbers with further experience, are the variously and atypically debilitated, nerve fatigued, anemic, undernourished, depressed, disheartened and mal-adjusted folks who respond to a rest-cheer and re-training time in the country place so well that one in the work inevitably seeks more of them, as against other classes. It is too little recognized that plain overwork is a fact, and a medical and downward—progressive condition; Convalescent Homes only can give most of these the right treatment. It is just in this zone that the newer American types of Homes are specializing and advancing into wider fields—in preventive and what we may call

'hold-on' recuperations; and are promising to take no small part in our whole scheme of preventive medicine

To the able and ever progressive management of our large County Hospital a distinct provision for convalescents and other half-ill non-contagious patients has already forcibly appealed; they constantly make some attempt to segregate this group within their hospital. A removed convalescent branch of much cheaper construction and daily maintenance cost, is however recognized by them as the best solution. Here is a most favorable opportunity to pioneer in county convalescence. Quicker and better restoration, the care of more patients, and the tax-savings are arguments enough.

Kirschenbaum[26] gives a brief and helpful article outlining the dietary procedures arrived at upon a basis of large practical experience in the care of convalescents, at the Burke Foundation.

A report through Dr. Lewinski-Corwin[29], its Executive Secretary, constituting one section of an exhaustive study of the hospitals of New York made by this Committee, places the authoritative Public Health Committee of the New York Academy of Medicine on record with regard to its views on the importance of convalescence, the report opening with the following declaration: "Provision for the care of convalescents constitutes an indispensable complement to hospital treatment." This important report, which covers the whole field of convalescence and convalescent facilities in the New York area, finds that "the annual expenditure for Convalescent Homes serving New York City amounts to approximately two million dollars," and infers that "there is a great social waste going on in connection with the underutilization of the Convalescent Homes, due chiefly to a lack of common directing policy and of generally recognized medical and administrative standards."

The opinion is further expressed, that, "considering the tremendous opportunity of the Convalescent Homes to restore large numbers of patients to normal ways of life and economic usefulness, it seems imperative that a joint effort on the part of the institutions should be made to secure data which will serve as a foundation for a rational and effective development of the work in its administrative as well as its professional branches."

In preparation for this report, a series of 3236 case records were reviewed. These cases dated far enough back to include a complete history of convalescence, and the cases included both dispensary and

hospital cases. Of the total cases studied, 30% were certified by Social Service Departments as needing institutional convalescent care; and it was rather surprising to find that in total the convalescent need was met in 82% of these cases. In detail, the convalescent need was met for 86% of the males, 81% of the children, and 80% of the females. The study further showed that the hospitals most successful in placing their patients were those in which the need was ascertained several days before the discharge of the patient. Of the 802 patients whose convalescent need was filled, 32% were placed in convalescent institutions on the day of discharge, 13% within three days after, 13% within a week, and 32% were not placed for a week following discharge from the hospital; for 10% there was no information on the records as to the date when the patients were placed in convalescent homes.

According to the medical classification, the greatest number of failures was among surgical cases, and also among neurological and orthopedic cases.

> In 57% of the Social Service records of patients certified as in need of convalescent care, there was no entry with regard to follow-up service; 27% were followed up within two weeks after their discharge from the hospital, and 15% within a period of three weeks to three months.
>
> The study of records revealed a lack of any uniformity of approach to the problem of convalescence by the hospitals. There seems to be a need for better formulation on the part of the hospital authorities of the types of patients which should be urged to take institutional care and under what conditions it should be carried out, and of a better timing of the discharge from the hospital with admission to a Convalescent Home.

This report summarizes its findings as follows:

> Institutional convalescent care has evidently become recognized as a community responsibility in New York City. According to an estimate made by Dr. Brush in the April 15, 1923, issue of the *Nation's Health*, New York City maintains about 50% of all the convalescent homes in the country. The investment in these homes reaches many millions and the aggregate cost of maintenance amounts to a considerable sum annually. Some of the institutions have large endowments, notably the Burke Foundation, the Solomon and Betty Loeb Memorial, and the Valeria Home, which is in the process of construction and which is to serve the need of the middle class. The outstanding need at the present time is a commun-

ity policy with reference to institutional convalescence, a coördination of all the existing activities as well as a formulation of adequate administrative and medical standards. Until such standards are formulated and adhered to, many physicians and surgeons would hesitate to curtail the length of hospital stay of patients and transfer them to Convalescent Homes. A Central Bureau of Information or Registry could be made very serviceable in promoting higher standards, and in reducing the amount of underutilization of existing facilities.

1924

Barrows[1] reports recent progress in convalescent work in Buffalo.

Boigey[3] in an instructive paper reinforced by statistics, presents one of the few recent articles in the foreign literature upon the subject of Convalescence, and clearly states his reasons for concluding that active exercise, on prescription by the physician, is an important factor in speeding up the progress of convalescence. He gives comparative figures to prove that more rapid progress is made with patients taking prescribed exercises than with those allowed to proceed upon the more usual rest-cure basis of convalescence.

Boigey stresses the importance of an active exercise routine which provides for

a. Moderate expenditure of strength,
b. Brief duration of effort,
c. Frequent repetition of motion.

Under these conditions, he expects

a. Increase of body weight,
b. Increase of muscle strength,
c. Increase of oxygen exchange,
d. Increase of accuracy of neuro-motor reactions, as position and resistance, and a quicker recovery of muscle sense perception.

The opposite is that inactivity of muscle results in an inadequate washing out of the tissues with well oxygenated blood, and an inadequate supply of nutrition to the tissues.

In a word, Boigey finds active and controlled exercise a more and more indispensable complement to other treatment, since it shortens the total duration of convalescence, and favors a return toward the maximum degree of health which the individual patient is capable of attaining.

Bryant[12] makes available* those portions of the *Cleveland Hospital and Health Survey* which are concerned with Convalescence. In a second paper, Bryant[13] offers† translations of two official documents which suggest the objectives and organization of the "Houses of Rest in Russia."

1925

Bryant[14, 15, 16] in a series of three articles‡, covers his own war experiences in "Convalescent Work in the U. S. Army."

Brush[5], discussing the general problem of "Convalescence in American Public Health," makes the following pertinent observations:

> There are four pieces of unfinished, almost unentered, work in the public health field today: convalescence, the neuropsychiatric border-zones, periodic medical examinations for the majority, and industrial-social adjustment of the handicapped and subnormals.
>
> Convalescence is placed first in this group because its establishment is needed before the other three can well be accomplished, though it is not major to the others in importance.
>
> If country convalescence is the next best public health investment, what will it cost? Maintenance ranges $1.20 to $2.00 per capita day, or one-third only of daily per capita cost of hospital care; and about 75 cents per day for house care. Part-pay patients further reduce the expense. New homes can be built for one-half hospital costs per bed and equipped for about one-third as much. But in the majority of cases various existing buildings and grounds may be readily adapted to the purpose with but very moderate first outlay. These comparisons, based on running expenses in all countries having convalescent institutions, should be kept in mind.
>
> The convalescent institution can more speedily and lastingly restore the individual to health (best indicated by return to wage or home occupation) than can the hospital or home environment, or other directing agency. Over one-sixth of all patients occupying our hospital beds any day would be better removed to convalescent homes, with a resultant saving to the community and a gain to the individual and to society.
>
> The convalescent institution's relations to the other health and industrial agencies are now measurably appreciated; it nears the ideal in closing this white space in the

* See page 67. † See page 101. ‡ See pages 111, 138, and 157.

health-industrial cycle by full workable restoration after illness, opportunity for the handicapped, and adjustment of the subnormals. "Convalescent Home" is no longer an adequate expression; terms such as "reconstructive country health plant" are required to explain it. Its best future is in prevention, for these plants can prevent, in rightly selected cases, the incidence of heart disease and periodic relapse of existing cardiac affections, neuro-mental breakdown, the various tuberculous 're-lightings,' at times the need of surgical operation, slow physical down-slides to inevitable illness, character deteriorations, home break-ups, and educational delinquency. (The list could be extended.)

Beyond prevention come other salutary effects, such as the holding or sustaining by periodic rests and the cheering of those in advanced years, malignancy, chronicity or other fixed burdens; also the physical and temperamental-moral testing of many doubtful and puzzling individuals.

Then, too, the environment imbues children and adults alike with lasting inculcations of ambition, better hygiene, diet, manners, honor, ambition, citizenship. The mental therapy of the progressive American Convalescent Home is only beginning to be appreciated, and to be studiously augmented as almost on a par with the physical. The main elements of this rejuvenation care—which is more impressive and apparently magical than any other in medicine—are time, country environment, firm hygienic regime and freedom from worry. In addition, the Admission Offices of the larger Homes are acting more and more as information and clearance centers far beyond the narrow fields of their inception; these soon become almost public health units in themselves.

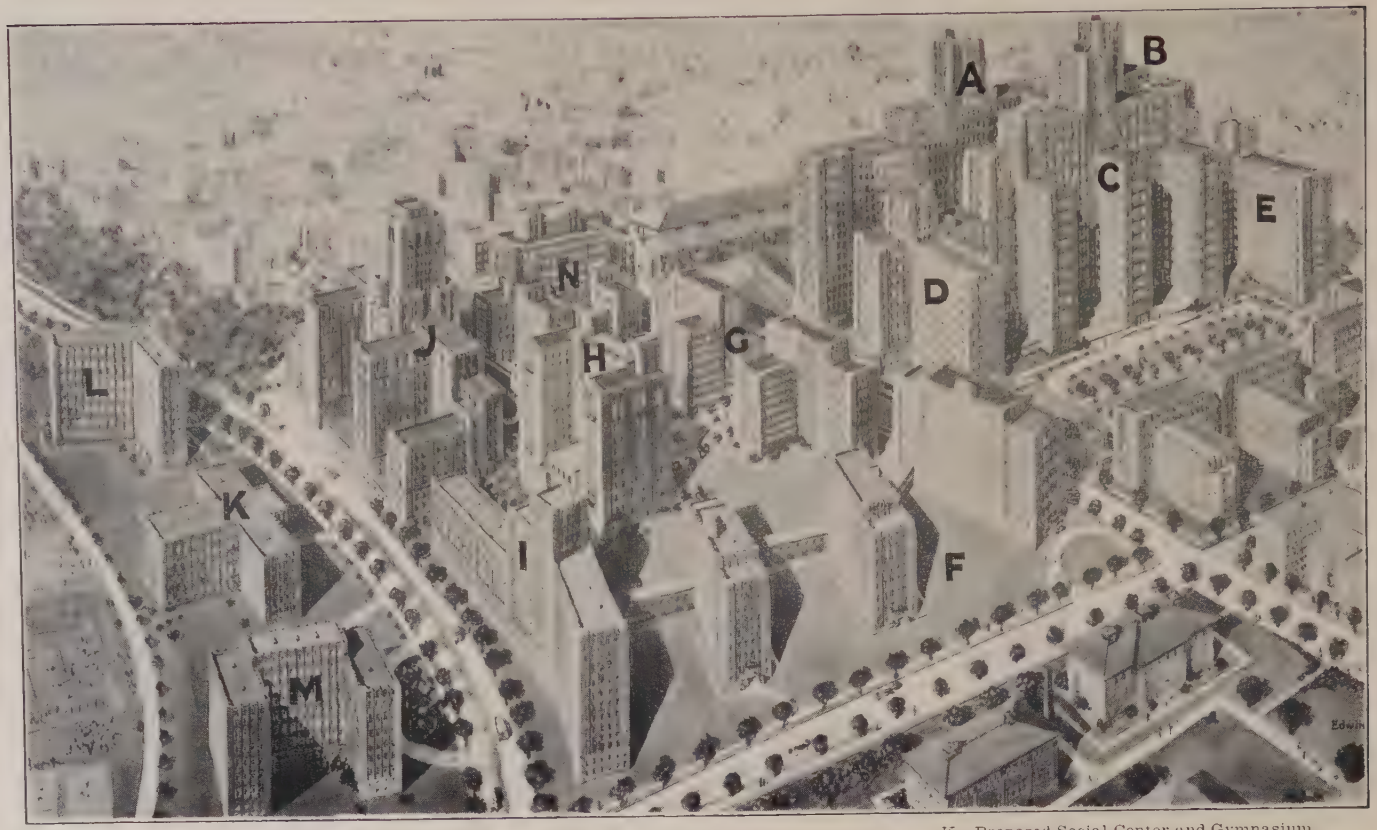
England lists thousands of convalescent beds and has long accorded essential place to this branch; yet it is notable that the late Sir Henry Burdett deplored the lack of effectiveness and justice in the convalescent administration as a whole and planned to press the radical reorganization of the entire system. . . . . America started meagerly with the English model, but our special conditions of population, city growths, plus some recent large endowments for the purpose, have brought such divergence in the unfolding of the scheme that other countries are now looking to us for new standards and leadership.

Our convalescent system merges into "fresh air" camps, vacationing homes, on one side, and on the other links with the hospitals, physicians, public health workers and the industries. It has recently launched upon a new growth of medical and public interest, especially in the vicinity of New York.

THE MEDICAL CENTER, NEW YORK

Convalescent Department (Letter M)

PLATE 83



A College of Physicians and Surgeons
B Vanderbilt Clinic
C Presbyterian and Sloane Hospitals
D Harkness Pavilion
E Babies' Hospitals
F Specialty Hospitals
G Future Personnel Housing
H Presbyterian School of Nursing Residence
I Student Dormitories
J N. Y. State Psychiatric Institute and Hospital
K Proposed Social Center and Gymnasium
L Proposed Graduate Nurses
M Intramural Convalescent and Recovery Home
N Neurological Institute

JOINT ADMINISTRATIVE BOARD
17 East 42nd Street, New York

No other major health section so lacks study, expert direction, and organization. The interest is becoming too large, measured in millions of dollars and lives, to advance further without standards, accredited customs, legal status, coördination, association.

Recently in New York (which has in its district nearly one-half of all the convalescent facilities of America) first steps have been taken to establish a Central Convalescent Bureau of service and information. This one has been held back until the need became pressing and it could be developed as side function only of stable existing associations. It will be conducted by the Hospital Information Bureau under the Public Health section of the Academy of Medicine, aided by the Sturgis Fund of the Burke Foundation.

In short, it is agreed that convalescence and other allied sub-standard health states are in that great community worthy of definite place in medical and welfare studies and programs.

The estimate made some years ago by the Burke Foundation, of at least one required convalescent bed to every ten hospital beds, with two percent added for dispensary and other sources, has proved sound in practice for New York, which city is approaching this ratio, and will undoubtedly demand a still higher percentage of country institutional outlet, as the preventive, holding, testing and the specialized recuperations are more fully appreciated.

Under date of October 7, 1925, there was presented to the Joint Administrative Board of the New York Medical Center, by Dr. C. C. Burlingame, its Executive Officer, an important memorandum on "The Medical Center Problem of Convalescence." This memorandum was endorsed by the Joint Medical Committee representing all the institutions associated in the Medical Center and authorized by the Joint Administrative Board as the instrument for informal negotiations. The following quotations from this memorandum are authorized by the Executive Officer.

The successful carrying out of the Medical Center aims in teaching, research and care of the sick, calls for not only care of the patient in the hospital bed during the acute stage of his disease and in the Out-Patient Department while ambulatory, but also during Convalescence. Convalescent care is necessary if the patient is to be restored to the maximum degree of health and usefulness, and also if a complete picture of the disease is to be made available for teaching and

for research. The three great divisions in the care of patients, in clinical teaching and in clinical research are

a. Hospitalization
b. Out-Patient Service
c. Convalescent Care.

The professional methods and physical requirements for good hospitalization and for out-patient service are reasonably well worked out and standardized, but in these particulars the care of the convalescent is far less advanced. It is comparatively recently that opportunities have been offered to the medical profession in America to develop the possibilities in the convalescent field.

The need for convalescence has already been established, certain broad policies have been worked out and have proven to be sound, yet there is lack of standards and exact information as to the results of various methods. For these reasons, it seems advisable to have the Medical Center convalescent problem worked out step by step rather than at this time adopting a complete program with all the detail requirements.

There is general agreement that the patient should not be retained in an acute hospital ward or its environment much after his need for acute care is past. Provision for his early convalescent care is decidedly to the advantage of the patient, to the professional groups concerned, to the hospital and ward administrators, and is economically sound.

It was considered that the difficulties, quite as much as the accomplishments under the existing methods of handling convalescence in New York, point to the following as sound considerations to be observed during the actual evolution of the Medical Center convalescent program:

1. Unified Professional Care.
2. Administrative Coördination.
3. Uniformity of Policies.
4. Specialization in Convalescent Care.
5. Economy of Administration.
6. Existing Country Convalescence.
7. Additional Country Convalescent Facilities.
8. Intermediate Convalescence (Intra-Mural Convalescent Home).

There should be established intermediate convalescent facilities between country convalescent care and hospital ward, which would make it possible for the professional and teaching personnel of the acute services to maintain intimate daily supervision of cases ready for discharge from the acute

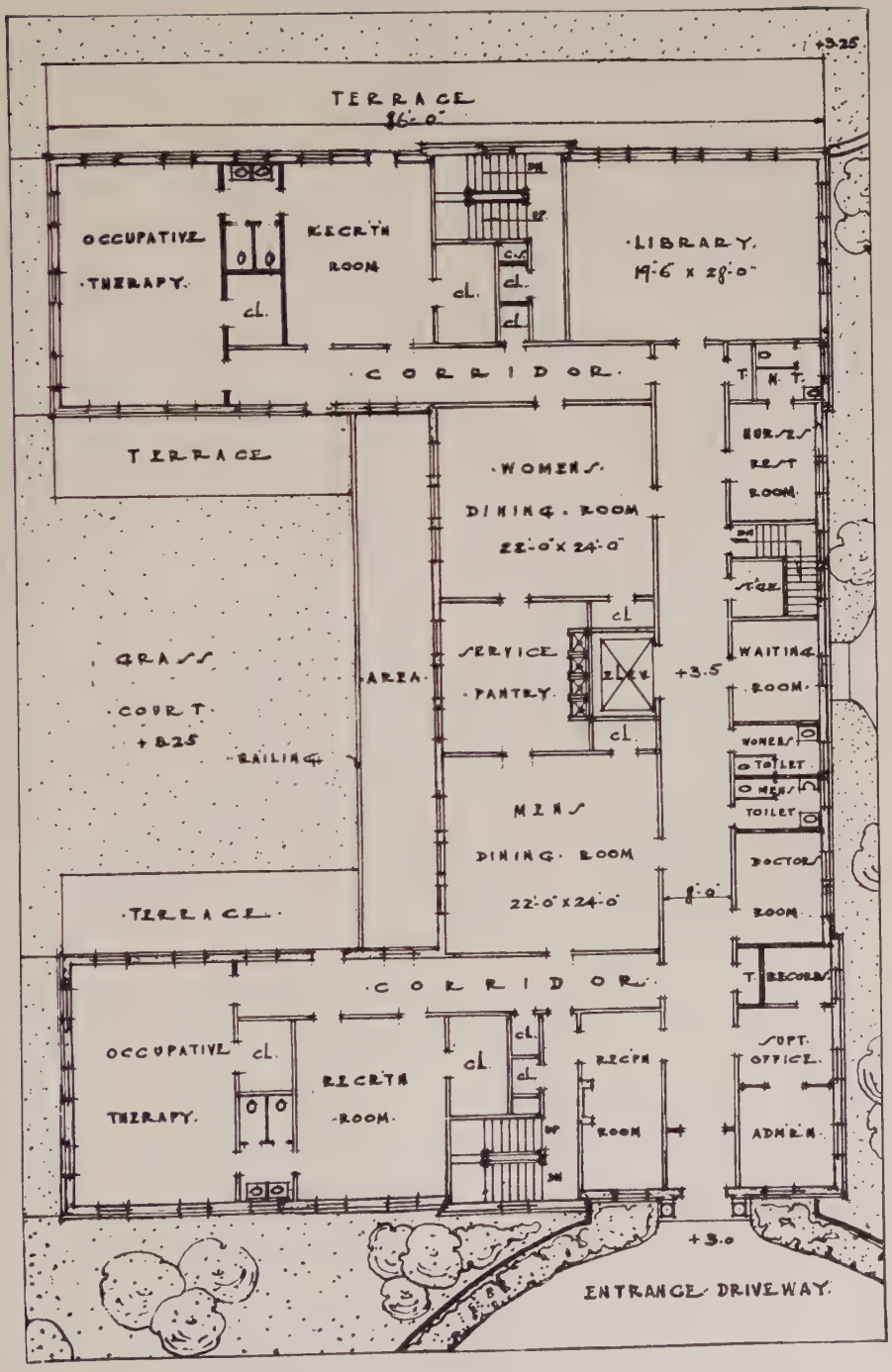
THE MEDICAL CENTER, NEW YORK

CONVALESCENT DEPARTMENT

Ground Floor

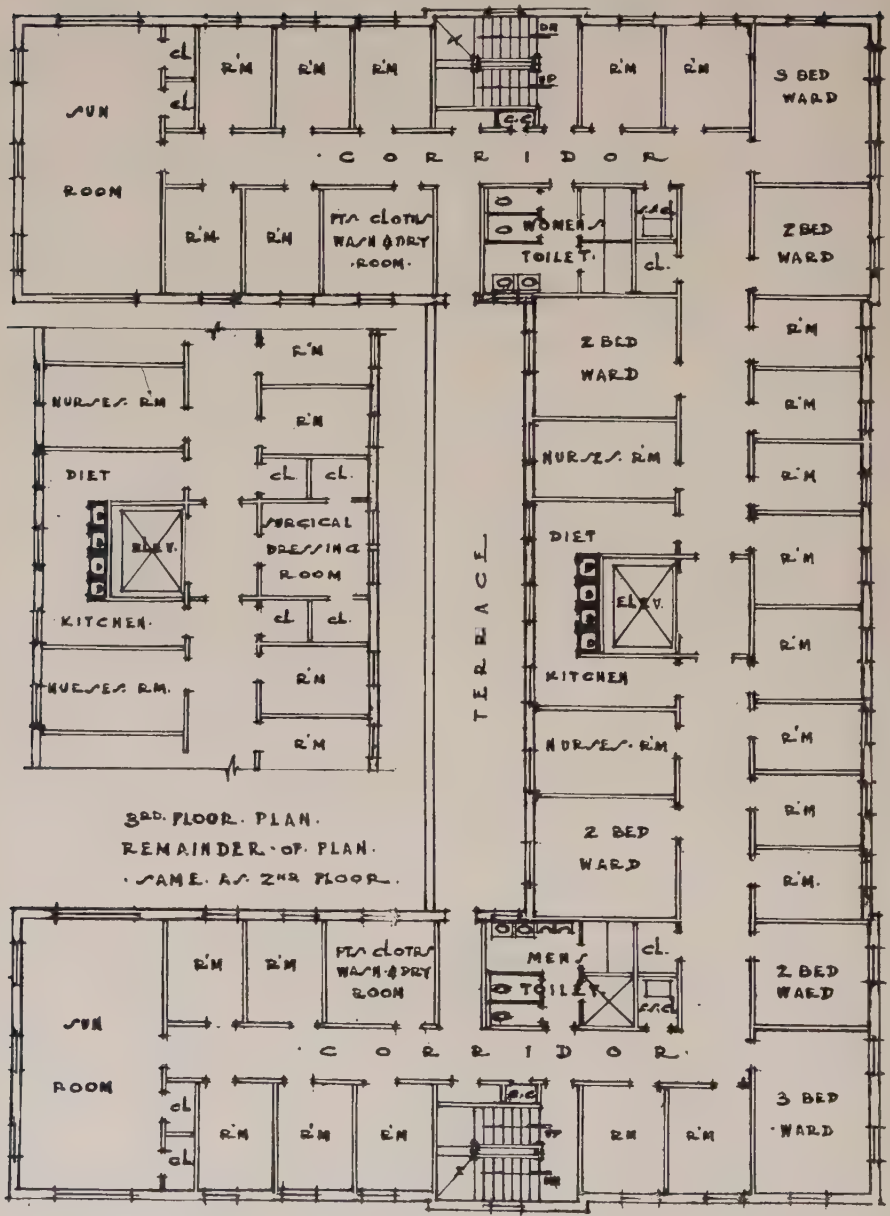
(Architect's Sketch Plan)

PLATE 84



Second and Third Floors
(Architect's Sketch Plan)

PLATE 85



2ND FLOOR PLAN

ward but not suitable for removal to the country, or required for teaching and research.

9. Use of Existing Homes.

In the Intra-Mural Convalescent Home might be established a bureau for placement for Medical Center convalescents in any of the sixty-odd country Convalescent Homes now serving New York City and which provide various kinds of professional care for the different types of cases of convalescence according to professional requirements, race and social conditions. This bureau also might coördinate and assist in Home and industrial placements.

Note: As a program of Medical Center country convalescence becomes realized there will be less need to rely upon the independent institutions which have neither professional nor administrative policies in common with the associated institutions.

10. Convalescent Research.

Through the agency of the Intra-Mural Convalescent Home a follow-up and investigation of the results of the various country and home convalescent methods might be conducted as the basis for developing further the Medical Center convalescent program. This might also serve as the depot for instruction of medical and nursing students in convalescent problems.

11. Importance of Convalescence.

The development of convalescent care and the solving of the convalescent problems is of sufficient importance to warrant considering it as an entity and making it a specific and concrete problem in itself.

All of the following specific recommendations are entirely consistent with the foregoing:

It is recommended:

That the Joint Administrative Board indorse the acquirement, under favorable conditions, of suitable sites for country convalescence to be held for the development of facilities to serve any of the Medical Center units and as such to be a part of the complete program of facilities for teaching, research, and care of the sick.

It is recommended:

> That under suitable conditions the Joint Administrative Board approve negotiations being entered into with responsible parties for the financing and operation of an Intra-Mural Convalescent Home at the Medical Center site under a plan to be approved by the Joint Administrative Board, such an institution to have as its object the developing for the associated hospitals of intermediate convalescent facilities and also facilities in the country and in the home, the promoting of teaching and the conducting of research in the convalescent field.

There are several possibilities as to the financing, i. e.

a. Some existing convalescent organization might become interested in undertaking this development.
b. Some foundation might assume this responsibility and direct its energies toward the progressing of this work.
c. Special funds might be given through one of the associated institutions for the purpose of this Medical Center convalescent work.

Levinson & Horner[28] give an excellent outline of five groups of occupational therapy procedures, which may help to carry the child upward from the stage of serious illness toward that of approaching health.

The Public Health Committee of the New York Academy of Medicine, in 1923, reported in detail upon the convalescent situation in New York, and urged further and better formulation of the very obvious problems of convalescence. On June 4, 1925, at the initiative of the Public Health Committee of the New York Academy of Medicine, there assembled in conference at the Academy of Medicine, the representatives of the Convalescent Homes and social agencies doing active convalescent work in the New York area, to discuss "Institutional Convalescence; Standards for the Care and Management of the Convalescent Homes."

At this conference, there was presented a group of six papers*, the first of which was a summary of the situation, by the Executive Secretary of the Public Health Committee. There followed, four detailed reports of Sub-Committees of the Public Health Committee

* All papers in this group appeared in *Hospital Social Service*, July, 1925.

THE MEDICAL CENTER, NEW YORK

CONVALESCENT DEPARTMENT

Fourth Floor

(Architect's Sketch Plan)

PLATE 86

4TH. FLOOR. PLAN

INTRA. MURAL CONVALESCENTS. HOME.

of the New York Academy of Medicine, covering the convalescence of Surgical[35], Medical and Neurological cases, and the convalescence of Children[34]. The conference closed with a paper by Brush entitled "Comment on Convalescence in New York City with Especial Reference to a Centralizing Agency."

This series of papers presents the most serious study yet available from a single group of foremost medical workers in a large city, covering standards of convalescent care, and cannot but prove of the greatest interest and practical value to medical and public health workers in other communities, who are facing similar problems. All of these papers are in agreement in regard to the necessity, as outlined by the Executive Secretary, for a "central clearing house where a daily census should be kept of available accommodations in all of the Convalescent Homes."

The Executive Secretary, Dr. Lewinski-Corwin, concluded his report as follows:

> Such a bureau would greatly facilitate the work of placing patients, and would obviate the need of making inquiries at each individual institution. Such a clearing house would in time become an important factor in the situation by the accumulation of facts concerning available facilities and the character of the work performed at the different institutions. It would serve also in securing better utilization of the Convalescent Homes, than is the case at the present time. It is true that there will always exist preferences on the part of patients as to the institutions to which they would like to go, as well as inequality in the standards maintained, but by following the principle of specialization and with the general improvement of administration, these difficulties would be obviated to a large extent. The bureau should not attempt to exercise the function of placing patients, but should serve merely as a source of information with regard to existing facilities. This bureau would likewise stimulate and assist in studies based on the experience of the several Convalescent Homes. Such studies are greatly needed in order to plan future work intelligently. Too little has been attempted in this direction. Only very few of the Convalescent Homes have analyzed their work with any approach to scientific method. Work of this kind presupposes adequate records kept by trained observers.
>
> The Hospital Information Bureau of the United Hospital Fund is ready to start a clearing house of the type above described, and has secured the active coöperation of the Sturgis Fund of the Burke Foundation and of the Hospital

Social Service Association. Undoubtedly, many other agencies in the field would lend their support and coöperation to the Bureau. It is therefore the recommendation of the Public Health Committee of the New York Academy of Medicine, that the Convalescent Homes avail themselves of the services proffered by the Hospital Information Bureau to organize such a service for the benefit of the Convalescent Homes, the hospitals, and the community at large.

All four of the sub-committees united upon the desirability of creating a Central Information Bureau on Convalescence for New York City.

The Surgical Sub-Committee expressed itself thus: "during the convalescent period it is felt that for the majority of ward patients, institutions for their care are preferable to their homes, as these latter do not as a rule provide an environment conducive to rapid recovery."

The Medical Sub-Committee concluded its report as follows:

The management of convalescence is of great importance in that this determines the time and the completeness of a return to health and thus resumption of work. Convalescence should be considered as a stage in an illness and not as a dissociated event. Adequate measures, therefore, should be employed to insure proper treatment during the convalescent state.

At the present time, convalescent management is unsatisfactory. The Homes in existence are not correlated, the organization in general is not a comprehensive one, and the supply of convalescent beds is far below the normal demands.

Two classes of Convalescent Homes for medical cases should be planned, one for private, hospital and dipsensary patients who are able to pay a moderate sum for their maintenance; another for those able to pay little or nothing. Both classes should make provision for adequate care of one or more of the different types of medical convalescents, provisions for quarters, staff and treatment.

The correlation of the Homes, their relationship to hospitals, dispensaries and physicians, and the distribution of patients to them, should be in charge of a central agency.

A comprehensive plan for convalescent relief should begin with the establishment of this central agency and the classification and where necessary, the re-organization of existing Homes. With this accomplished, the further development should be along lines suggested in this report.

The Neurological Sub-Committee in concluding its report, presented as its first finding, the proposition, that in neurology the need of convalescent care is not confined to acute cases. Secondly, it was believed that the facilities for the care of convalescent cases should be separate from the development of facilities for chronic cases. This Committee held that a solution of many of its difficulties would seem to lie in the creation of the Central Information Bureau, and added that "if a comprehensive convalescent system were brought into existence, it is certain that greater numbers would soon be asking its benefits."

Dr. Frederic Brush in his comment, states that "institutional country convalescent treatment is becoming so important that it needs study, direction, and approximate standards." He believes that "convalescence is the most important health segment now lacking organization and skilled direction," and that if convalescence does not of itself improve and adopt surer standards and methods, it will be compelled to do so from the outside,—which is not altogether the best way.

Brush notes that

> England and France are restoring, post-war, their extensive convalescent provisions. The present government of Russia has notably included country convalescent and rest periods in its official schemes for all of the people. In the United States the number of year-round convalescent beds has increased from eight to ten thousand in the past two years, with keenly awakening interest and inquiry from all of the principal population centers. Large convalescent sections are now being definitely planned into several municipal and university health and educational plants.
>
> The purpose of this meeting being to present to the various convalescent interests the valuable and extensive reports of the sub-committees of the Public Health Committee of the New York Academy of Medicine, I have been requested to suggest in merest abstract some of the immediate lines of improvement and advance to be taken up by the convalescent leaders. The Committee's studies are very advanced, carrying forward twenty years or more, all the more inspiring for this reason. They may be considered by many to be somewhat one-sided—from the hospital and city side—perhaps the more instructive so. It would seem incumbent upon the convalescent managers to get together repeatedly and work out within the next five years many of the betterments and increases demanded, and to give cause for the rejection or modification of others.

The convalescent interests have scarcely realized their high obligations and responsibilities. They have pre-empted some of the best lands in our suburban communities, go mainly tax-free and thus seriously curtail tax-incomes of communities, bringing out added problems of contagion, policing, hospitalization, and undesirability—and thus far have given little service to their adjacent sections. Furthermore, they have back of them the general support of the hospital, private, medical, industrial, and public-health bodies. It is time that they rise to better and broader functionings. Abundant funds are no doubt awaiting application to this convalescent work if its essential character is made apparent.

For today's purposes let us at once turn to the hard-working facts of the situation and try to offer some suggestion for advancement this year, or the next. Let directors of convalescence but ask what may be done, precisely and soon, to add to and safeguard our particular service to the public health, and something like the following list will inevitably present. There should be in our conduct of convalescence:

Physical improvement in our plants, large or small, with provision of adequate grounds for this peculiar and mainly outdoor treatment, and in many other ways which will suggest themselves—to conform to reasonable sanitary and efficiency standards, yet to be formulated.

The immediate elimination of fire danger to patients and employees.

Regular medical, nurse, and emergent care sufficient to meet, not the demands always of the city sources or critics, but the requirements of a sound convalescence.

Better selection of patients with prevention of financial abuses, impositions, convalescent "rounding," etc.

A flexible term of stay for every patient determined by progress, home and economic conditions and needs, and other influencing factors.

Higher percentage-occupancy of beds.

With few exceptions, year-round use of plants.

For many of the Homes, widening of the admission classification.

Provide recreational, occupational and mental therapies under skilled supervision, with some beginning vocational guidance and aid in adjusting to industry and social life.

At least emergent dental care.

School teaching in all places taking numbers of children and adolescents.

Better facilities and methods for the prevention and control of contagious disease outbreaks.

Readiness to do a certain amount of instruction of visiting public health classes and individuals.

The possible definite training of attendants, and certain grades in nursing.

The keeping of more nearly uniform records, appropriate to the limited but important uses and comparisons later to be made of them.

In considerable percentage of cases forwarding written discharge report of patient's conduct and progress to the sender.

Publishing of more uniform reports at least once in two years.

The expert study and presentation of various convalescent-medical experiences from large groupings of patients.

Developing values in the Central Convalescent agency through persistent coöperations tending not only to improve the existing services but to aid in getting the large additions called for.

The first extensions required are for the borderline neuro-mentals, boys from 10 to 16 years with nearly all diagnoses, certain intermediate respiratory conditions, and all-round convalescent outlet for the colored people.

It is not our purpose today to enter into a discussion of the detailed functionings of the Central Office, but a few indications may be given of very large practical questions fronting this specialty which require to be worked out between hospitals, convalescent institutions and the public:

What are the medico-legal liabilities in convalescent treatment—also the community-legal relations?

What ratio shall convalescent costs bear to hospital and house-treatment expenses?

What is to be right proportion of general to special institutions?

What obligations shall the senders of patients assume, and where are the divisions of responsibility?

May there be obtained some official regulation of the passing of communicable disease cases back and forth over the city borders?

What coördinations may be gotten to further close the main gap in this restoration effort—maladjustment to occupation and environment immediately following convalescence?

RESOLUTION ADOPTED AT THE CONFERENCE OF CONVALESCENT HOMES AND SOCIAL SERVICE AGENCIES

Resolved:

First, that this conference of representatives of Convalescent Homes and social agencies assembled at the Academy of Medicine on June the 4th express its thanks for the constructive work done by the Public Health Committee of the New York Academy of Medicine in formulating for the first time in the annals of medical history of this City standards of medical care and management of Homes for convalescent patients, as these standards will prove of effective service to all of the institutions,

Secondly, that we endorse in general the principles in the report of the Public Health Committee, and

Thirdly, that we heartily approve the suggestion that the Hospital Information Bureau should operate the Central Reference Office on Convalescent Problems in coöperation with the Public Health Committee of the New York Academy of Medicine, the Hospital Social Service Association, the Sturgis Fund of the Burke Foundation, the Children's Welfare Federation, and all other agencies interested in the work of promotion of proper convalescent care in this City, and express the readiness on the part of all those assembled to help in making the Bureau an effective agent in the field of convalescent care.

Passed on June 4, 1925.

Soon after this conference had been called, the New York Central Clearing Bureau for Information on Convalescence, became a fact, it being organized as a sub-department of the Hospital Information Bureau of the United Hospital Fund, a not inconsiderable proportion of its expenses of maintenance being contributed by the Sturgis Fund of the Burke Foundation.

1926

Boas[2] gives, with a chart, his ideas concerning the relative places in the scheme of medical care, which chronic and convalescent hospitals occupy in relation to the usual and more widely known types of general hospitals for the acutely sick.

Bryant[17] considers* certain rather neglected "Medical Aspects of Surgical Convalescence."

Crapo[20] outlines the scope and methods employed in an orthopedic home for children, 45 beds for each sex, on a 250 acre estate where

* See page 175.

progressive work is being done, and where especial attention is given to the procedures tending toward orthopedic reconstruction and rehabilitation.

Kelm[24], in one of the few recent articles which has considered nursing problems in relation to Convalescence, notes that, granting the necessary physical facilities, the nurse remains the pertinent factor in adequate convalescent care. The mental and psychological aspects of convalescent nursing are mentioned, and it is certainly suggestive that for the past two years in New York City, two nursing training schools have included convalescence in their Social Service elective courses, sending pupils in small groups for instruction and observation of the procedures both to the City Admission and Clearance departments, and to certain larger country Homes with matured regimens and teaching staffs.

It is further noted that "for those of administrative bent, there is already frequent call to the superintendencies of institutions, it being recognized that the best all-round nurse training precisely fits for this incumbency; which ever includes the 'doctoring' of many minor ailments, with a minimum of bed care and a major portion of common-sensed human management and uptending. These positions are well paid, give opportunities for pioneering and distinction, afford most attractive living conditions, and there now appears a definite lack of well equipped women to fill the demand. As this type of institution multiplies, there will be outlet also for many trained assistants, and these, be it noted, are happily often recruited from the mildly handicapped, the city-tired or depressed, who find in this country-cheer environment their own rejuvenation along with peculiarly satisfying work."

Noting that special instruction in the convalescent services for nurses in training falls naturally into four divisions or methods, Kelm gives the following suggestive outline covering four grades of instruction:

> 1. The entire class (or in sections) may receive, usually in the Senior year, one or more lectures by leaders in this field, reinforced by complementary teaching within the school.
> 2. Student nurses, usually those specializing for the social service or public health branches, in groups of two to six, pursue a definite home and visiting short course of four to six days in convalescent nursing and general management, covering the selection and preparation of patients in wards and clinics and visiting nurse services, a day or two of as-

sistance and observation in the city admission departments of the larger convalescent institutions, brief residence in at least two representative country Homes, (child and adult) giving theoretical and practical instruction in the various procedures, supplemented at the hospital by observation of social service and other follow-up and re-employment practices upon returned and house-care patients.

3. To those deeply interested in this work, it seems highly desirable that elective undergraduate courses of from two to four months be offered by well organized convalescent institutions which are in a position to establish good courses of instruction.

4. The demand for nurses qualified to administer convalescent institutions can best be satisfied by nurses who have made the effort to secure the special preparation required. This might properly include a period of postgraduate work in a well organized institution to which should be added suitable observation of other institutions doing similar work.

The Burke Foundation, through its Sturgis Fund, had published three editions of its *National Directory*[32] *of Convalescent Homes.* As applied to New York, this directory was helpful, but not detailed to a degree adequate for local workers. The newly organized Convalescence Service of the Hospital Information Bureau of the United Hospital Fund of New York therefore took upon itself the immediate publication of a *Directory*[21] *of Convalescent Homes Serving New York City and Vicinity.* The first edition of this local Directory, prepared by Pauline Jordan (formerly with the Burke Foundation), Secretary of the Convalescence Service, lists the Advisory Committee of the Convalescence Service, and carries as its foreword the following paragraphs by Lewinski-Corwin, Director of the Hospital Information Bureau of the United Hospital Fund of New York.

Until recently no effort has been made either to bring together at periodic intervals those responsible for the management of Convalescent Homes or to appraise critically the available resources in this important field of health building.

The impetus in both directions was given last year when the Committee on Public Health Relations of the New York Academy of Medicine called a Greater New York City conference on the subject of institutional convalescence and presented a report on standards of convalescent care. The standards as worked out by the Committee on Public Health Relations constitute the first attempt at medical formulation

of the objectives and guiding principles of convalescent management. This effort is regarded by the *Modern Hospital* as one of the outstanding achievements of the year in the field of institutional care of the sick.

The conference of June, 1924, led to the organization of a Convalescence Service in connection with the Hospital Information Bureau of the United Hospital Fund of New York. A permanent secretary is in charge of this Convalescence Service. An advisory committee of representatives of Convalescent Homes and social service institutions is directing the policies of the Service. The primary aim of the Convalescence Service is to develop the field of convalescent care and to make the available resources known throughout the community in order that the maximum use may be made of them.

The present directory is one of the methods by which it is hoped to achieve this result. It has been prepared with a great deal of care and gives the information as fully as is considered practical though in a somewhat laconic or telegraphic style. It supersedes the useful and much appreciated directory which has for a number of years been published by the Burke Foundation. Upon inquiry we have ascertained that there is an insistent demand for a directory covering at length the many and varied details prerequisite to admission to the Convalescent Homes. It was intended that this directory should be useful to physicians and lay persons as well as to social workers and, therefore, much information has been included which may seem unnecessary to those already fully familiar with the field.

It has been found convenient to divide the directory into two parts, the first a classified or functional directory containing a brief listing in an alphabetical order of the name and address of each Convalescent Home, the age of patients accepted, the address of the admission office, the telephone number and the name of the person in charge; the second part containing detailed information about each Home, such as is often needed for further reference.

The Homes listed in this directory are, with one or two exceptions, philanthropic institutions and the charges made, if any, do not cover the cost of maintenance. Many of them give services entirely free.

The Homes listed are for convalescing patients but the term convalescence is not clearly defined by many institutions. Many receive patients who are on the brink of a "breakdown" and thereby render restorative services prior to, rather than after, an acute manifestation of disease. In some of the Homes patients with chronic diseases find temporary relief.

Other Homes function to a considerable extent as "fresh air" Homes during the summer months when they admit malnourished children and those generally "below par" in health.

The information was obtained by means of questionnaires and personal visits by Miss Pauline Jordan, the Secretary of the Convalescence Service. Sincere thanks are due to the many executives of the Convalescent Homes who were good enough to furnish the needed data and to give their wholehearted coöperation.

Since conditions are constantly changing in the convalescent field and wise munificence creates new opportunities, any directory is certain to become incomplete or inaccurate after a short period of time. It is planned, therefore, to issue from the Convalescence Service, supplements of such changes and additions as may occur.

This New York Directory should prove of great value, giving as it does in addition to an alphabetical list, and list of projected new Homes, a classfied list of Homes by

(a) Age and sex limit,
(b) Type of condition,
(c) Religion or race.

1927

Brush, in an address before the Wayne County Medical Society, Detroit, January 4, 1927, discusses "The Interrelation of Chronic and Convalescent Care," as follows:

There is a neglected intermediate section in our public health, comprising in bare outline the chronics, cripples, moderate defectives, the half-sick, reconstruction cases, preventives of many kinds, and the variously handicapped. The borders of this grouping may not be precisely defined, but it is getting recognized as a dark zone on our health and industrial charts,—a reproach and a challenge. Aggregate millions of our population are in this classification.

They are the most difficult to diagnose, treat and adjust in life. The majority of physicians touch more or less casually or evade their problems. A body of workers, mainly non-medical, is slowly developing for their relief—social workers, reconstructional aides, agencies and schools for the handicapped, vocational guidance and special employment bureaus, visiting nurse associations, improved general and special clinics, Convalescent Homes, and better coördinating welfare organizations.

How long can the medical profession measurably ignore this responsibility and opportunity? Prevention, the treatment of acute illness, and sanitation are well forward;

this subnormal zone, in which charlatanry and maladjustment flourish, awaits further entry. There remains a valuable carry-over from the World War applying to this, and conditions are favorable for skilled and concerted action.

Purely from a mechanical-industrial viewpoint, it is evident, with immigration so curtailed and labor changing methods and status, that America is no longer to be run on its youth and brawn. The weaker, older and measurably substandard people, male and female, must be repaired, re-couraged, and re-enlisted in our democratic army of world-inspiring industry and advanced social living. But this is only a partial consideration: these substandard millions have rights, to fair places in the sun—to all possible freedom from pain, to communal standing, recreation and a contending graded productivity, that our science and piling wealth can give them.

The first American health need is for many Chronic Disease Hospitals. Next in ranking insistence comes the extension and improvement of our system of convalescent care. It is impractical to urge general hospitals to give added space and time to the classes under discussion, for their development is obviously and increasingly toward high-cost, emergent, specialized and research functioning. The Branch Hospital, frequently proposed, is no longer favorably considered. Industrial plant health conservation, "fresh air," camping and vacationing outlets, insurance, and welfare work in general—these are fairly organized and of indispensable aid in this field. Definite advances now await the establishment of institutions for chronics, convalescents, and for reconstruction.

It is found that more than 25 per cent of the 6,000-plus patients yearly admitted to the Burke Foundation's country repair institution are in the chronic class. This does not imply much disagreement with Dr. Boas' valuable definition of chronic disease, (as requiring at least three months of invalid medical care, etc.) for this briefer period in the convalescent place is so often but one segment of a prolonged scheme of treatment and rehabilitation utilizing several coöperating agencies. And while the convalescent institution should hold to its special line, it will, if rightly functioning, ever be using a considerable proportion of its effort upon chronic diseases, and with most gratifying results.

Our prevention of disease incidence is well in hand, but the other half at least—the prevention of relapse, deterioration, premature ageing, fatigue, mal-adjustment, of breakdown and failure—is too little considered. This applies particularly to the chronic, and the country plant is admira-

bly adapted to this phase. The term 'holding' recuperation is now used to designate this treatment which, with no mission of cure, maintains substandard persons, in fair comfort and usefulness, on an even tenure or even a gradually downtending course.

If the hospital for chronic diseases is first need why so emphasize the convalescent plant? Because you cannot soon get the former and you may the latter. The chronic hospital does not as yet appeal to the founders and givers; additions will evidently have to come largely through municipal action. But convalescent beds in this country are adding at the rate of over 1,000 per year. The feasibility of starting and carrying through a convalescent project is now assured; and it will notably augment chronic disease care besides functioning regularly in standard recuperation prevention and Americanization. Furthermore, the chronic hospital when established needs the convalescent place for terminal fitting of many of its measurably restored patients to the workaday world, to be consummated through the latter's better normalizing morale and closer linking with welfare agencies and industry.

The full community requirements for the depleted, the temporarily dissociated and the reparable chronic are—hospitals general and special with their usual auxiliaries, the hospital for chronic diseases, a reconstruction hospital, convalescent places in the country for the various classes, and agencies following through to suitable employment, good housing and recreation. Where all of these exist, as incompletely in New York, e. g., the last named provision is found to be the weakest, is never of least importance and may well be organized in advance of the other elements. This cycle of prevention and repair and replacement will not be satisfactorily attained until a certain ratio of the community's physicians begin devotedly to reclaim this neglected field of medicine and public health. Once awakened our gatherers and distributors of wealth may be trusted to provide the means, aided in time by more governmental support.

Convalescent building-costs per bed are now only about one-third that of hospital construction, with a like low ratio for equipping and for daily per capita maintenance. Sustainers of acute and general hospitals may well be asking—why not erect more of these intermediate institutions next, and release thereby from one-fourth to one-third of the existing hospital beds to their proper usages.

Greater Detroit, under modern health planning, rates a minimum apportionment of five or six hundred convalescent beds, and may well provide most of these in advance of the hospital for chronic diseases.

Brush[6] outlines in a brief and helpful paper some of the legal and other problems which must be faced or considered by organizations newly establishing themselves in the field of convalescent work. He states that "the treatment of convalescents, and the allied sub-standard borderline classes, in country institutions is steadily developing in America, (the census of 1927 shows increase of more than 5,000 convalescent beds alone in the past four years) and various new and distinctive public health and communal problems are being encountered. The recognition of certain approximate standards and precedents will be generally helpful; and especially to those entering this field."

The question of the country institution's responsibility is discussed, not only from the legal viewpoint, but from the point of view of the required degree of safety and comfort in transportation. Medical attendance, nursing, recreational and occupational therapy, dental service, drug therapy, communicable diseases, building plans, water supply, sewage disposal and sanitary arrangements, fire protection, insurance, patients received under Workmen's Compensation pay, the increasing grades of city financial aid, the medical and behaviour records of the convalescent patients and in general the relations of Convalescent Homes, both welfare and financial, to the surrounding communities, all are passed in review.

Brush suggests the ratio of "one-quarter acre of land per patient bed, (building sites included) as a fair requirement for the conduct of successful country convalescence—the ratio justly varying somewhat for different classes of patients and kinds of care."

Brush remarks in closing, that "reception of patients from the contiguous territory, and the measured use of the institutional grounds and equipment for outside communal recreation, will also go far towards establishing just and important governmental, public health and social relationships. It is to be noted that New York City, e. g., is now going into adjacent states for some of its convalescent provision, and questions of jurisdiction and coöperation are bound to arise."

Kelm[25], writing from an experience obtained as Directress of the Burke Foundation, considers the very practical matter of "Laundering for Convalescents," as follows:

> Standards of laundry equipment and procedure, so well worked out for the general hospital and the commercial plant, apply only in part to the convalescent institution for

which standards of spacing and management have not yet been developed.

Convalescent Hospitals and Rest Homes vary in size from those of a few beds to those with several hundred; the reception ages range from infancy to senility and, in this country, include practically all social grades and races. A working division for the purposes of this report, however, would be for adult as against child care. Children ranging from ten to sixteen years are mainly in the so-called children's institutions, but may be, and are, adapted, with some separation and specialized regime, to the adult institutions.

Adult convalescent patients wear the clothing they bring with them, consisting generally of one change with a few toilet articles and accessories, and do some washing and ironing for themselves or have their laundry done at their own expense at some nearby commercial plant. During more extended residence some of them send their clothing home to be laundered.

The institution has its own store from which it sells or gives articles of clothing and in certain needy cases aids by sending the patient's things to the house laundry. In one large home all washing is done by the house and the cost prorated among the patients, while the ironing is done by the patients themselves in assigned hours and places.

The advanced and active patients frequently aid the weaker ones in this detail and the employees at all times help the severely handicapped. Often a small fund for this work is made applicable to those who cannot manage to do their own ironing.

Articles that are vermin infested or have been used by contagious suspects are removed and sterilized by the Home. A varying degree of inspection of all outfits, upon arrival, is practiced and in some institutions all effects are placed in sanitary boxes, and private luggage is cleaned and held until time of discharge.

The method employed in practically all of the children's and many of the adolescents' Homes is to store the patient's clothing, without laundering, and substitute more or less standardized outfits which the institution provides and keeps in order, free of cost, either in its own or in a commercial laundry. A small charge, such as fifty cents a week, is made in certain institutions and the procedure is modified in accordance with local conditions.

The Burke Foundation has a detached two-story, modernly equipped laundry building with connecting subway and covered corridors. This building also houses many of

the women employees. The personnel is made up of two women and two men assistants. The hours are from 7 A. M. to 4 P. M., with Saturday afternoon and Sunday off.

The work includes all bed and general house linen, blankets, personal laundry for the staff, and the customary stated number of pieces for the employees. Occasional service to needy patients is of minor importance. Repairs are made by the engineer's department. A mattress sterilizer finds comparatively infrequent but valuable usage. Only soap chips, soda, bluing and starch are used in the laundry processes.

Daily collections of soiled clothing, check-up with accompanying lists, weekly sorting of pieces for repair, a central linen closet, monthly inventory and a standardized apportionment for each cottage, section, department or house obtain as the usual procedure of good management. The linen loss through the use of 6,300 patients, theft, and otherwise, totalled less than ninety pieces in one year.

Somewhat unique is the repair of all linens by women patients, as a part of their Occupational Therapy prescription. One hour daily is given to this work and most of the repairing is accomplished in one or two days each week. Over 6,000 pieces were repaired by the women patients last year. All of this work is, of course, under the supervision of the Director of Occupational Therapy with patient Aides. As a result no seamstress department has ever been necessary at the institution and a great saving has thereby been effected.

STATEMENT OF LAUNDRY COSTS FOR YEAR

Output—500,000 pieces (4/9 being starched), plus 2,000 blankets	
Salaries	$2,900
Supplies	800
Work and material from engineer's department	400
Total running cost, not including overhead	$4,100

The total cost approximates $10.00 per bed per year.

Each cottage unit, consisting of from forty to fifty patients, has provided a special wash sink and electric irons. Drying is done mainly on outdoor lines near exits and on sunny porches, but indoor frames, placed unobtrusively, are available as weather and season demand.

Such comparatively low running costs are largely brought about by a skilled head laundress and the coöperation of the engineers. There is, of course, comparatively much less daily wear on the linen in Convalescent Homes. These factors all combine to make the lower per capita costs of convalescent as compared with general hospital laundry.

Early in 1927, there appeared the fourth edition of the *National Directory*[32] *of Convalescent Homes,* issued by the Sturgis Fund of the Burke Foundation. This useful little directory carries in its Foreword over the signature of Mollie S. Sinclair, R. N., Supervisor of the Admissions Department, Burke Foundation, the following suggestive paragraphs:

The three previous editions of this booklet were exhausted by steady calls of public health workers. In the larger centers it evidently has found good use as a local desk directory.

There may be as yet no clear definition of the "Convalescent Home." It is essentially an institution in the country which receives post-ill and preventive ambulant patients on medical diagnosis, and gives a short rest and exercise, physical-mental upbuilding, sufficient to return them to normal or at least substandard life activities.

The adequate treatment of convalescents and of the various subnormal and borderline conditions is a major public health need and problem in America.

The convalescent specialties—example heart disease, orthopedics and neuro-mentals—are establishing separate institutions. Social service is turning to country convalescence as well-nigh essential in the health-industrial improvement and handicapped scheme, and demanding wide extensions.

II—General Survey

Europe

With the exception of the rather recent development of the Houses of Rest in Russia, concerning which there has been difficulty in obtaining information, interest in Convalescence throughout Europe is conspicuous by its absence.

It is true that the convalescent system of Paris has been re-established upon its pre-war basis, and a few new Convalescent Homes have appeared upon the map in England; but in general, England and France are apparently contributing nothing new in the way of convalescent care. They rest perhaps upon the traditional attitude

of passive care for the convalescent patient,—an attitude in marked contrast to the new American active effort to make the convalescent period yield a maximum of benefit to the recovering patient.

Such flickers of interest in convalescence as had appeared in Europe just previous to the war, seem unfortunately to have been extinguished or at least temporarily obliterated by more pressing necessities, as caring for the large numbers of post-war cases of tuberculosis,—necessities which of course demand prior attention from the hospital and health authorities.

The current state of affairs in regard to convalescence in Central Europe, is suggested by the following paragraph from a personal communication from Dr. Lewinski-Corwin, in which he summarizes the results of his own observations during the summer of 1926, together with such inquiries as he was able to make with regard to countries which he himself did not visit.

> There are not many special Convalescent Homes functioning in Germany, Austria, Switzerland, or Holland. The movement for convalescent care in Central Europe has been checked in consequence of the War, and the large increase in tuberculosis has called for the utilization of all institutions to accommodate patients suffering from this disease. The lack of Convalescent Homes has caused a long average stay of patients in hospitals. I have forgotten the exact figures, but the average in many of the hospitals is a month and over. This long stay creates in many instances a shortage of beds for acute cases, and a movement has recently been on foot to construct additions of an inexpensive type to hospitals for convalescent patients. There is however, difficulty encountered in considering patients as convalescents because of the attitude of some of the sickness insurance funds which refuse to pay the hospitals for patients who are not considered strictly hospital patients. The matter is being very seriously considered, and pour-parlers are going on with the sickness insurance funds.

United States: Outside of New York

In the United States, the total number of beds for convalescents has increased by 2,700 in the last two years, and by 5,000 in the last four years, there now being available for convalescent patients a total of more than 12,000 beds, distributed throughout the country. It is encouraging to note that recent additions to the convalescent bed

capacity of the country are for the most part located in large and well organized convalescent institutions.

In 1922, it would have been correct to say that, in the United States, interest in convalescence faded toward the disappearing point with increasing distance from New York.

Today, only five years later, this is not correct. Upon the basis of the correspondence and contacts of the Burke Foundation, especially as involved in the preparation of the fourth edition of its *National Directory of Convalescent Homes,* it is possible to state that most of the larger centers of population in the country are now at least restless concerning convalescence; and many of them are actively investigating, planning, even creating the facilities necessary for the efficient care of their convalescent patients.

A list of interested communities would include the following: Baltimore, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New Orleans, Pittsburgh, Rochester, St. Louis, San Francisco, Worcester; and in Canada, Toronto.

In this group of cities, three are especially active. Baltimore is for example enlarging to a capacity of 100 beds its Happy Hills Home for Children (with maintenance from the Community Chest). San Francisco is applying some $10,000 per year from its Rosenberg Fund to the care of convalescent patients and advancement of the problem. Philadelphia has to its recent credit the beautiful if rather expensive Dunwoody Home, which, opened in 1925, cares for 40 men with promise of expansion, on an eighty acre site; also, the recent purchase of 50 acres of land by the Hebrew Federation with promise of early completion of a country convalescent home of 100 beds or more; and the gift of the Magee Fund of about $1,000,000 through which there is action toward the erection of a Convalescent Home of from 50 to 70 beds, with preference for patients requiring rather long residence.

Boston is conspicuously absent from the interested group of cities. In Boston there is even "progress backward," for in Boston today there are nearly 100 less convalescent beds available than in 1914.

Boston was one of the earlier American cities to follow the European example of erecting Convalescent Homes. It is therefore a trifle depressing to contemplate the Boston of today which, though given high health ratings in recent surveys, provides only one-fifth to one-seventh its normal (10%) ratio of convalescent beds and keeps these few beds only some 60% occupied. Yet Chickering House,

PLATE 87

80 acres of grounds and 44 beds

CHICKERING HOUSE

DEDHAM, MASS.
1911

PLATE 88

Utilization of Farm House Property
Thirty acres of land, 28 beds

PLATE 89

Homelike Atmosphere

PLATE 91

Recreation

PLATE 90

Outdoor Walks

opened in 1911, (Boston's best existing country Convalescent Home for Women), offers a good example of private initiative in the utilization of a group of farm buildings for the newer purposes of a small (30 bed) Convalescent Home; its major handicap is that it is too near a main and noisy highway overburdened day and night with heavy traffic.

It was thought that all beds for adult male convalescents in Boston had ceased to exist, but a considerable search finally revealed 17 beds reserved for men in the Jewish Frauen Verein Home.

United States: New York

It is to New York that one must go, if one wishes to find and study what is today the most progressive demonstration of the possibilities of practical convalescent work on a large community scale. Incidentally, New York is today the only large city in the world which, with over 30,000 acute beds, can point to its total of not less than 3,000 beds for convalescents, in the assurance that on the accepted minimum 10% ratio of convalescent beds, it is at least prepared to give its convalescent patients a reasonably square deal.

Beginning with an impetus doubtless acquired through the opening in 1915 of the endowed Burke Foundation, New York has, in little over a decade, gained a most impressive and expanding momentum in convalescent care; doubtless also, this momentum received additional acceleration through the establishment in 1921 of the Sturgis Fund, endowed by Mr. Frank K. Sturgis, President of the Burke Foundation, the income of which has been available for application to "the advancement, in the convalescent and allied fields, of the public health." New Country Homes and institutions, both independent and in connection with existing hospitals, are constantly being added to existing equipment; and problems of convalescence in the New York area have now begun to receive intelligent and coördinative care through the newly established Convalescence Service of the Hospital Information Bureau of the United Hospital Fund of New York.

Financial support for convalescent projects in the New York area, available or promised prior to 1930, reaches the impressive total of the equivalent of a capital sum of approximately $20,000,000.

Among the more important recent additions to the New York list of existing or projected facilities for convalescents, the following require special mention:

1. The Convalescent Home of the Association for Improving the Condition of the Poor, at Ward Manor, Red-Hook-on-the-Hudson: with an endowment of about $1,000,000, approximately 1,000 acres of land, and 70 beds with more in prospect, it is planned to give special attention to the old age group, to the convalescence of adults of both sexes, and to summer camps for boys and girls.

2. The Convalescent Home of the Hospital for Joint Diseases, at Breezy Point, Far Rockaway, Long Island, N. Y.: an excellent demonstration of the possibility of converting a large private residence, with some eleven acres of grounds and an endowment of approximately $500,000, into an orthopedic convalescent plant for 50 or more children, this gift being an indication of the newer tendency toward specialization within the field of effort in convalescence.

3. St. Luke's Hospital Convalescent Home, Greenwich, Connecticut: a gift to the hospital from Mrs. Hicks Arnold, of her place of 200 acres, known as Byram Woods. The gift of the land was followed by a further gift of $1,000,000, one half to be used for endowment and the other half for construction. The three central buildings of the projected complete group are in process of erection, and will provide for about 70 patients. It is planned to utilize the Home especially for the general convalescence of adults, with a tendency toward the accommodation of longer-stay patients.

4. The Department of Public Welfare of New York City, has plans matured and only awaits apportionment of funds to establish a Special Children's Convalescent Home for genito-urinary conditions, at Brewster, N. Y.

5. The Presbyterian Hospital Convalescent Home: a gift of the Tod estate of some 117 acres at Sound Beach, Connecticut, where, on a peninsula about thirty-five miles from New York, it is planned to construct a large general convalescent plant.

6. Although the Presbyterian-Columbia Intramural Convalescent Hospital* in New York City at the Medical Center has not yet gone beyond the stage of planning, there is every reason to assume that this project will on completion of more pressing work at the Medical Center, become a reality. If so, this Medical Center Intra-mural Convalescent Hospital of 80 beds or so, will stand by itself as the most significant event in convalescent history since the opening of the Burke Foundation. The completion and utilization of this Convalescent Unit will mean that for the first time in the history of medicine, an important teaching center will

* See page 235.

NEW YORK HOSPITAL FOR JOINT DISEASES—COUNTRY HOME
BREEZY POINT, FAR ROCKAWAY, L. I.
1926

PLATE 92

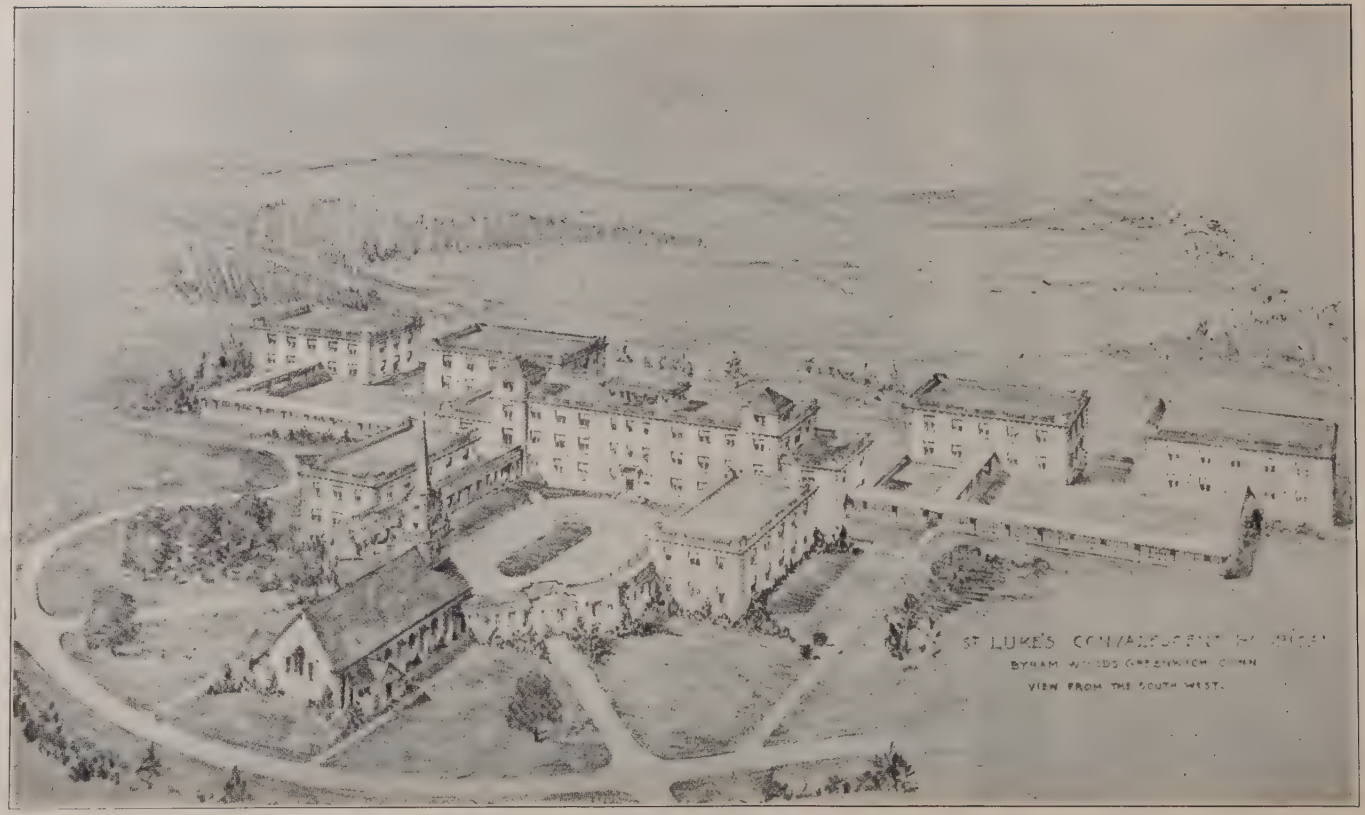
Utilization of Private Residence

PLATE 93

Heliotherapy on Veranda

SAINT LUKE'S CONVALESCENT HOSPITAL
GREENWICH, CONNECTICUT
1927

PLATE 94



200 acres of grounds; 70 beds in the three central buildings under construction; extensions projected.

have incorporated as an integral factor in its broad scheme of hospital construction and medical teaching, adequate facilities for

(a) Routine care of normal convalescence.

(b) Investigation of delayed convalescence.

(c) Research into many little understood phenomena of both normal and abnormal convalescence.

(d) Instruction of students in numerous problems of normal and delayed convalescence, and many allied near-chronic conditions of poor health.

New York rather fancies being first and largest as well as best. Efforts have been made elsewhere toward inclusion in medical teaching centers, of Intramural Convalescent Departments; and if New York would see her present priority in planning actively for convalescence widened to include priority in the planning, building, and establishing as a routine, of a hospital equipment which will certainly prove to be the first of several Convalescent Departments to be created and conducted within the folds of the larger teaching centers, she would best not sleep over it too long. Otherwise, there will only remain for New York to build and equip not the first, but perhaps the largest and best of our future Medical Center Intramural Convalescent Departments.

III—Comment

The contemplative observer may note, during the past hundred years, the appearance of certain signs of progress in the slowly upward trend of convalescent care.

Ten of the more important of these signs arrange themselves chronologically somewhat as follows:

1840—Metropolitan Convalescent Institution of London.

1857—Vincennes and Vésinet (Napoléon III).

1915—Burke Foundation.

1918—Convalescent Department, Walter Reed General Hospital.

1920—Cleveland Hospital and Health Survey.

1921—Sturgis Fund of the Burke Foundation.

1923—Public Health Committee Report, New York Academy of Medicine.

1925—Conference on Convalescence, Public Health Committee of the New York Academy of Medicine.
1925—Convalescence Service, United Hospital Fund, New York.
1925—Intramural Convalescent Unit, New York Medical Center.

It is instructive to note that, with two exceptions both of which are nearing the hundred year mark for age, all eight of the ten important signs listed, date within the last twelve years. It may be therefore, that though progress has been slow, it is now becoming cumulative,—conceivably a good omen for the future.

Most of the factors necessary for rapid and satisfactory progress in generalized convalescent care are now in operation and of proven value. One exception may be noted, namely, the development of statewide systems which will make available to those in small rural communities, as to those dwellers in large cities, the advantages of modern convalescent care. A possible approach to such a procedure will be found outlined in the latter portion of a paper by the writer*.

The pioneer work in convalescence is completed. There remains to be accomplished the execution and adaptation of it, upon a nationwide scale, to local conditions. At the rate of progress visible during the last five years in the New York area, the next decade will see the near-completion and practical adaptation of the convalescent structure made possible by the labors of the earlier workers in this old-new field of medical care, a field through the intelligent and intensive cultivation of which the toiler will soon enough learn the truth of the following statements:

1. Convalescence is the eye of the needle through which must be passed all who, having been sick, would gain health.
2. Convalescent care is the only known alternative to:
   (a) Increase in the numbers of "half-cured" patients being discharged from our acute hospitals.
   (b) Increase in the numbers of Homes for the Helpless and Aged.
3. Convalescent care is essential to the completion of any comprehensive Community Health program.
4. "The secret of the care of the patient is in caring for the patient." (Peabody)†.

---

* See page 216. † See page ix.

REFERENCES

1 Barrows: N. Y. Child Health Magazine, 1924, v, 517.
2 Boas: Mod. Hosp., 1926, xxvi, 312.
3 Bolgey: Bull. Acad. de Med., 1924, 3, s, xcii, 1461.
4 Brush: Nation's Health, 1923, v, 241.
5 Brush: Mod. Hosp., 1925, xxv, 305.
6 Brush: Mod. Hosp., 1927, xxviii, 86.
7 Bryant: Boston M. and S. J., 1922, clxxxvii, 653.
8 Bryant: Boston M. and S. J., 1923, clxxxviii, 99.
9 Bryant: Boston M. and S. J., 1923, clxxxviii, 625.
10 Bryant: Boston M. and S. J., 1923, clxxxviii, 687.
11 Bryant: Boston M. and S. J., 1923, clxxxviii, 951.
12 Bryant: Boston M. and S. J., 1924, cxc, 1070.
13 Bryant: Boston M. and S. J., 1924, cxci, 1114.
14 Bryant: Boston M. and S. J., 1925, cxcii, 943.
15 Bryant: Boston M. and S. J., 1925, cxciii, 499.
16 Bryant: Boston M. and S. J., 1925, cxciii, 557.
17 Bryant: Boston M. and S. J., 1926, cxciv, 920.
18 Burns: Mod. Hosp., 1921, xvi, 525.
19 Clark: Mod. Hosp., 1922, xix, 400.
20 Crapo: Mod. Hosp., 1926, xxvii, 99.
21 Directory of Convalescent Homes Serving New York City and Vicinity; Convalescence Service of the Hospital Information Bureau of the United Hospital Fund of New York. New York, 1926.
22 Hall: Boston M. and S. J., 1921, clxxxv, 625.
23 Kahn: Mod. Hosp., 1925, xxv, 45.
24 Kelm: Am. J. Nursing, 1926, xxvi, 453.
25 Kelm: Mod. Hosp., 1927, xxviii, 140.
26 Kirschenbaum: Mod. Hosp., 1923, xx, 176.
27 Levinson: Nation's Health, 1922, iv, 378.
28 Levinson and Horner: Mod. Hosp., 1925, xxv, 483.
29 Lewinski-Corwin: N. Y. M. J., 1923, cxviii, 759.
30 Mackay: Mod. Hosp., 1921, xvii, 10.
31 Muir: Mod. Hosp., 1921, xvi, 462.
32 National Directory of Convalescent Homes in the United States; Fourth Edition; Sturgis Fund of the Burke Foundation, White Plains, N. Y., 1927.
33 Sinclair: Hosp. Soc. Service, 1921, v, 377.
34 Sub-Com. Report on Child Convalescence, Pub. Health Com. of N. Y. Acad. of Med.; Arch. Ped., 1925, xlii, 614.
35 Sub-Com. Report on Surgical Convalescence, Pub. Health Com. of N. Y. Acad. of Med.; Arch. Surg., 1926, xii, 601.
36 Wood: Mod. Hosp., 1921, xvi, 443.
37 Wright: Nation's Health, 1922, iv, 529.

INDEX

A

Academic Occupational Work:
  Proven Value, 166, 173, 205.
  Versus Handcraft Occupational Therapy, 152.
  See: Educational Training.
Academie des Sciences. Report, 11.
Admissions:
  Class of Patients, 124.
  Statistics, 18, 24, 48.
Adolescents, 35, 37, 39, 55, 63, 95, 243.
Aesthetics. Value, 104.
After-Care:
  In the Home, 82.
  Of Acute Cases, 31, 76.
Age of Patients, 66.
Air. Fresh. Value, 6, 58.
Ambulance Fear, 86.
American College of Surgeons, 76.
Americanization Work, 152, 160.
Amusements, 5.
Anaesthesia, 184, 185.
Anxiety Neuroses, 43.
Appendectomy, 47.
Appetite. Impaired, 6.
Armstrong, 29.
Asile National de Vincennes, Paris, 22.
Asile Sainte-Eugénie, Lyon, 19.

B

Baker, 214.
Baltimore, 256.
Barringer, 31.
Barrows, 232.
Bathing, 24, 107.
Beds:
  For Convalescents. In U. S., 255.
  Percentage, 70.
  Ratio for Convalescents, 2, 30, 68, 214, 225.
Bellevue Hospital, N. Y., 29.
Bibliography, 1, 4, 26, 38, 49, 194, 261.
Billings, 155.
Blood Pressure, Systolic, 41.
Boas, 244.
Boigey, 232.
Bones. Tuberculosis, 36.
Boston, 27, 214, 256.
Boston Medical Library, 26.
Bott, 41.
Bowel Rest, 190.
Boys. Convalescent Care, 55.
Brackett, 174.
Bridgman, 2, 32, 42, 111, 201.
Brochin, 1, 10, 171.
Brown, 30.
Brush, 32, 39, 40, 75, 228, 233, 248, 251.
Bryant, 1, 27, 39, 41, 51, 67, 101, 111, 118, 121, 137, 138, 146, 157, 175, 195, 227, 228, 244.
Buffalo, 232.
Burke Foundation Hospital, White Plains, N. Y., 30, 51.
  Admissions, 56.
  Class of Cases, 39, 53.
  Results of Treatment, 40.
  Statistics, 39, 51.
Burke Relief Foundation, 30, 32.
Burlingame, 235.
Burns, 223.

C

Calcedonius, 5.
Camp. Movable, 31.
Camp Grant, 112.
Camp Taylor, 42.
Canteen. Value, 17, 61, 126.
Capps, 113.
Cardio-Vascular Hyposthenic Sign, 28.
Case-Histories. Routine, 125.
Cathartics, 185.
  Relation to Diet, 121.
Cato, 5.
Celsus, 4.
Center. Medical, 235.
  See: New York Medical Center, Convalescent Department.
  See: New York Medical Center Convalescent Program.
Centers. Convalescent, 216, 239.
Charité Hospital, Paris, 1, 10, 22.
Charity Hospital, Cleveland, 81.
Charts. Clinical. Interpretation, 191.
Chicago, 256.
Chickering House, Boston, 256.
Children, 9, 95, 97, 224, 227, 238, 239, 242, 248, 256, 258.
Chronic Disease. Hospitals, 249.
Chronic Exhaustion, 30.
Chronic Illness:
  Chronic Illness and Convalescent

Care. Interrelation.
See: Convalescent and Chronic Care.
Classification, 138.
Convalescent Care, 53.
Prevalence, 7, 91, 92, 139.
Similarity to Convalescence, 27, 53, 91.
Treatment, 93, 137, 248.
Cincinnati, 256.
Circulatory Reactions, 41.
City Admission Office, 56.
City Annex:
Vésinet, 20, 21.
Vincennes, 24, 25.
City Hospital, Cleveland. Statistics, 83.
City Plan, 94.
Civil War Experience, 2, 10.
Clark, 227.
Clearing-House, 239.
Cleveland, 83, 256.
Cleveland Hospital Council, 67.
Cleveland Survey, 67, 172.
Summary, 99.
Climate in Treatment, 31.
Clinical Neglect, 140, 170, 200, 212, 221.
Clinics. Special, 41.
Cold and Nerves, 185.
Cold. Ill Effects, 6.
Community Program, 93.
Community View-point, 3, 68, 198.
Conference of Convalescent Homes, N. Y., 244.
Conner, 174.
Continuity of Care, 181, 218.
Convalescence:
A State of Mind, 79.
Central Clearing Bureau for Information. See: New York Central Clearing Bureau for Convalescence.
Definite Planning, 90.
Definition, 34, 176, 197.
Points of Application, 208.
Preventive Convalescence, 32, 37, 40, 53, 62, 234, 249.
Convalescent Care, 248.
Active vs. Passive, 31, 103, 146, 232, 255.
Classification, 208.
Need, 94.
Optimum Time, 54, 210, 231.
Convalescent and Chronic Care. Borderlines, 53, 91, 99, 226, 248.
Convalescent Department. Independent Status. Importance, 148.
Convalescent Service, U. S. A., 114.
Convalescent Situation. Improvement, 142.
Convalescent Unit, 211.
Convalescents:
Classification, 35, 39, 208.
Ratio to Acutely Sick, 11, 30, 40, 42, 95.
Cooke, 6.
Coöperation, 55, 226.
Costs in Convalescent Hospitals, 29, 96, 100, 226, 233.
Cottage Hospitals, 28.
Country Convalescence, 229.
Courage. Restoration, 66.
Crapo, 244.
Crimean War Experience, 2, 9.
Cross-Infection, 113.

D

D. A. H. See: Heart. Irritable.
Da Costa, 9, 10.
Dancing, 59.
"Delayed Summit" Reaction, 41.
Dental Care, 64.
Depression. Ill Effects, 6, 9.
Detroit, 256.
Diet, 5, 6, 9, 31, 59, 117, 120, 190, 230.
"Hospital," 122.
Low Protein, 66.
Post-Operative, 190.
Pre-Operative, 183.
Soft, 121.
Differential Time-Factor in Medicine, 218.
Differentiation Between Home and Institutional Care, 40.
Directories, 246.
Discharges from Hospitals, 29.
Diseases Treated in Convalescent Hospitals, 66, 229.
Dispensaries. Value, 77.
Dress, 127.
Drugs. Misuse, 6.
Dunwoody Home, Philadelphia, 256.
Duration:
Normal Convalescence, 42, 49, 178.
Of Stay in Acute Hospitals, 28, 45, 48, 71, 92, 139.
Of Stay in Convalescent Hospitals, 14, 17, 24, 31, 45, 48, 65.

E

Early Discharge from Hospitals. Disadvantages, 3.
Economic Loss, 3.
Economic Value of Convalescence, 4.
Educational Training, 133, 151, 161.
Effort. Graduated, 223.
Eliot, C. W., 69.
Endowments, 41, 210.

England, 2, 7, 29, 234.
Convalescent Hospitals, 29.
Entertainment. See: Amusements.
Environment. Unfavorable at Home, 7, 28, 84, 90.
Europe. Survey, 254.
Eusterman, 180.
Exercise, 5, 6, 28, 31, 126, 232.
Controlled, 6, 31, 41, 43, 223, 232.
Controlled. Effect on Discipline, 113.
Slow Type, 113, 127.
Special, 28, 41.

F

Failures, 231.
Family View-point, 67.
Farming, 226.
Fatigue, 6, 191.
Avoidance. Admission and Discharge Days, 56, 86.
Dangers, 86.
Relief, 189.
Females and Males. Ratio of Convalescents, 30.
"Fish-up" System, 76.
Fitchburg, 214.
Follow-up:
Of Convalescent Patients, 231.
System in Hospitals, 76.
Food:
In Treatment, 5, 6, 40, 59.
Odors, 5.
Foreign-born Patients:
Attitude toward Hospital, 73, 80, 100.
Statistics, 72, 74.
Fourcade, 5, 170.
France, 8, 10, 19, 22, 29, 224.
Frankel, 28.
Freeman, 31.
Friends. Over-officious. Ill Effects, 6, 8, 64.
Funds for Convalescence, 22, 25, 247, 256.

G

Galbraith, 31.
Galen, 5.
Games. Pleasurable, 127.
See: Recreation.
Gardening, 116, 226.
Gardens, 12, 17, 61, 127, 129, 130; Plates 8, 24, 31, 32, 45.
Germany, 29.
Gonad Irritability, 189.
Granger, 174.
Grenfell, 67.

H

Hall, 223.
Half-Cured Patients, 28, 30, 193, 196.
Happy Hills, Baltimore, 256.
Harkness Estate, Cleveland, 98.
Health. Economic Value, 83.
Health-building, 38, 106.
Health Surveys, 68.
Heart:
Disease. Convalescent Care, 35, 53, 62, 66.
Disease. Ratio to Other Diseases, 31.
Insufficiency, 28, 35.
Irritable. In Soldiers, 9, 10, 116.
Irritable. In Soldiers. Recovery, 119.
Hebrew Charities. New York City, 28.
Hebrews, 28, 41.
Herniotomy, 47.
Heylerus, 4.
Hexter, 41.
Hippocrates, 1, 4.
History, 1, 10, 27, 33, 199, 224, 259.
Hoffmann, 5.
"Home" Convalescence, 34, 40, 66, 79, 83, 90, 209.
Homes. Convalescent. See: Hospitals. Convalescent.
Horner, 238.
Hospital and the Community, 75.
Hospital Bills. Management, 87.
Hospital Efficiency, 32, 74, 81.
Hospital for Joint Diseases, N. Y.: Convalescent Home, Far Rockaway, L. I., 258.
Hospital Information Bureau, 239.
Hospital. Responsibility to the Convalescent, 75, 76, 77, 79, 80, 82, 219.
Hospital Social Service Association, 240.
Hospital Trustees. Information Necessary for Efficiency, 70.
Hospital View-point, 3, 198.
Hospitalization, 72, 88.
Hospitals. Convalescent, 8, 10, 28, 32.
City Admission Office, q. v.
City Annex, q. v.
Cost per Bed, 29.
Cottage Type, 28, 227.
Infirmaries, 12, 18, 19, 57, 107.
In United States, 228.
Misuse, 2.
Need, 11, 28, 66, 71, 94, 236.
Organization, 103.
Rules and Regulations, 13, 23, 103.
Sexes. Mixing in, 207.
Situation, 7, 106.
Size, 7, 95, 108.

Type, 33, 109, 227.
Value, 7, 167, 209.
Versus Homes for Incurables, 28, 54, 173, 217, 260.
Hospitals. Survey in Cleveland, 70.
Hôtel Dieu, Lyon, 8, 22, 224.
Houses of Rest. Russian, 101.
Howard, 8.
Human Factor, 71.
Hygienic Care, 5, 31, 107.
Hypotension of Effort, 28.
Hyposthenic Cardio-Vascular Sign, 28.

I

Imagination. Failure, 6.
Infant Mortality, 18.
Influenza, 46.
Information:
Concerning Patients, 74, 82.
Not Given Patients, 82, 89.
Information Bureau on Convalescence. See: New York Central Bureau for Convalescence.
Insomnia, 7, 189.
Institutionalism. Value, 60, 66, 96.
Instruction:
Lack of, 1.
Of Patients. Need, 82, 83, 86, 89, 90.
"Interesting Cases," 87.
Intestinal Action. Improper, 6.
Intestinal Disease. Chronic, 120.

J

Joint Diseases, 258.
Jordan, 246.

K

Kahn, 224.
Kelm, 245, 251.
Kidney. Tuberculosis, 36.
Kirschenbaum, 230.

L

Lakeside Hospital. Cleveland, 85.
Laundering, 251.
Lee, 137.
Legal Problems, 251.
Leucocytic Formula, 28.
Levinson, 227, 238.
Lewinski-Corwin, 230, 239, 246, 255.
Lewis, 27.
Liaison, 156.
Libraries for Convalescents, 15, 17, 23, 62.
Light, 5.
Literature, 1, 4, 5, 10, 27, 170, 223, 227.
Liverpool Convalescent Institution, Woolton, Eng., 9.
Loeb Memorial, White Plains, N. Y., 231.
London, 8.
Metropolitan Convalescent Institution, q. v.
Los Angeles, 256.
Lyon, 8, 19.

M

McConnell, 31.
Mackay, 224.
MacLean, 9, 10.
Males and Females. Ratio of Convalescents, 30.
Malingering, 118, 127.
Manchester, England. Chronic Illness in, 7.
Mann, 41.
Maret, 5.
Masks. Gauze Face, for Patients, 113.
Massachusetts General Hospital, Boston: Convalescent Home, 27, 29, 208.
Massage, 155, 188.
Medical Treatment, 107.
Medicine. Research vs. Clinical, Preface ix, 71, 188.
Medico-Surgical Coöperation, 180.
Men. Convalescent Hospitals, 12, 19, 36, 54, 225, 257.
Mental Cases. Convalescence, 36.
Mental Condition of the Convalescent Patient, 41, 43, 103, 177.
Mental Training, 29, 31, 102, 234.
Metropolitan Convalescent Institution, London, 8.
Meyers, 42.
Michie, 174.
Military Convalescence, 42.
Monotony. See: Nervous System.
Moral Care, 5.
Morphine. Dangers, 186.
Mortality: Increase, 28, 30.
Infant, 18.
Statistics, 16.
Motor Education, 28.
Mount Sinai Hospital, Cleveland. Statistics, 88.
Moscow, Russia, 101, 105.
Muir, 224.
Mumps, 46.
Muscular Weakness, 6.
Music. Value, 15, 59, 104.

N

N. C. A. See: Heart, Irritable.
Napoléon III. Decree of, 11.

National Directory of Convalescent Homes, 246, 254.
Nausea. Post-Operative, 186.
Neglect of Convalescents, 27, 94, 140, 141, 170, 195, 200, 212, 248.
Negroes:
  Care, 37, 225.
  Statistics, 30, 37.
Nerves and Cold, 185.
Nervous Irritability, 6, 41, 177.
Nervous System:
  Control. After Operation, 185.
  Monotony. Effect, 103.
Neurasthenia, 43.
Neuro-Muscular Training, 183.
Neurological Cases, 239, 241, 243.
New Orleans, 256.
New York, 28, 30, 200, 224, 230, 239, 257.
  Convalescent Hospitals, 258.
New York Academy of Medicine. Public Health Committee, 172, 238.
New York Central Clearing Bureau for Information on Convalescence, 244.
New York Directory, 246.
New York Hospital Society, 224.
New York Medical Center Convalescent Department, 258.
New York Medical Center Convalescent Program, 236.
Night After Operation, 187.
Night Before Operation, 184.
Nightingale, 31.
Nursing:
  Convalescent, 58, 83, 226, 245.
  Surgical, 187.

O

Occupational Therapy, 6, 30, 31, 37, 39, 41, 66, 150, 161, 168.
  Applicability to Acute Illness, 207.
  Classification, 212.
  Practical vs. Dilettante, 152, 205.
  Required, 60, 126, 129, 131, 148, 204.
Occupational Therapy Department. Independent Status. Importance, 148.
Oddo, 28.
Operative Care, 185.
Opiates. Use, 7, 184, 185.
Orthopedic Cases, 244, 258.

P

Paris, 1, 10, 19, 199.
Patient. Care of. Basis, Preface ix, 71.
Patient:
  Disease. Critical Moment, 75.
  Personality. Critical Moment, 75.
  Understanding of Hospital, 75.
Patients:
  Community Registration, 89.
  Not Properly Instructed, 82.
Patient's View-point, 3.
Pay Convalescence, 55, 225.
Peabody, F. W., Preface ix.
Period of Convalescence, 1, 2.
Philadelphia, 256.
Physical Reconstruction:
  Disabled Soldiers, 147.
  United States Army. Division of, 146, 157.
Physician. Fundamental Problems, 111.
Physiotherapy, 29, 30, 107, 149, 154, 168.
  Aides. Qualifications, 155.
  Classification, 155.
Physiotherapy Department. Independent Status. Importance, 148.
Pillows. Small. Value, 188.
Pittsburgh, 256.
Plato, 3, 29.
Play, 66, 117, 128.
Pneumonia, 46.
Pool, 31.
Post-Operative Care, 31, 35, 63, 185.
  Clinical, 188.
Poverty and Sickness, 3.
Powell, 41.
Pre-Operative Care, 182.
Presbyterian-Columbia Convalescent Hospital, N. Y., 258.
Preventive Medicine and Convalescence, 195.
Program:
  Community, 93, 236.
  Convalescent, 216.
Progress, 259.
Prolongation of Convalescence, 43.
Public Health and Convalescence, 195, 233.
Pulse Reaction, 41.

R

Rainbow Hospital, Cleveland, 97.
Randolph, 114.
Readmissions, 49.
Reconstruction Aides. Training, 155.
Recreation, 5, 43, 59, 104, 128, 129.
Registration. Community, 89.
Relapses, 65, 76, 81, 179.
Research, 237.
Resistance. Lowered, 46.
Rest. Intermittent, 41, 105.
Rheumatism, 36.
Riding, 5.

Robertson, 3, 7, 171.
Rochester, 256.
Rowell, 27.
Russia, 101.
Rykov, Madame, 101.

S

Saint Louis, 256.
Saint Luke's Convalescent Home, Boston, 27, 211.
Saint Luke's Hospital, N. Y.: Convalescent Home, Greenwich, Conn., 258.
San Francisco, 256.
Savage Races. Chronic Illness, 7.
Scarlet Fever, 46.
Sea Air. Value, 7, 9.
Segregation, 5, 29.
Selection of Patients, 66, 96, 124.
Seneca, 5.
Sexes. Mixing in Hospitals, 60, 207.
Sheldon, 224.
Sinclair, 224.
Sinusitis, 47.
Sleep. Tranquil. Value, 5, 188.
Smith, W. H., 69.
Social Service, 31, 41, 83, 90, 156, 212, 223.
  Responsibility for After-Care, 76.
Social Service Clearing House, 89, 90.
Societies, 30.
Soldiers:
  Convalescent Care, 9, 43, 49.
  Physical Disability, 10.
Solon, 5.
Specialization. Dangers, 71.
State Organization, 216.
Statistics, 48, 65, 81, 139, 157, 214, 228.
Strength. Reserve, 192.
Sturgis, 39.
Sturgis Fund, 257.
Sunlight, 6.
Supervision. Continuity, 181, 218.
Surgeon's Responsibility. Post-Operative, 187.
Surgical Cases, 31, 239.
Surgical Convalescence. Medical Aspects, 175.
Surgical Dressings, 35, 39, 63.
Survey of Convalescence, 68.
Switzerland, 29.
Sydenham, 5.

T

Talk. Value, 60.
Taylor, 31.
Taylor, J. M. 28, 171.
Teaching. Effect on Patients, 87.
Telephone Information, 74.
Tenon, 11.
Thayer, 42, 201.
Time-Factors, 177.
Tonsillitis, 47.
Toronto, 256.
Tranquility of Mind, 5.
Transition. Between Sickness and Health, 1.
Transportation of Patients, 14, 56, 66, 215.
Travel, 5.
Treatment, 27, 31, 41, 114, 182, 211.
  Convalescent Department, Walter Reed General Hospital:
    Daily Schedule, 126.
    Routine, 125.
Treves, 67.
Trustees. Hospital. Information Necessary for Efficiency, 70.
Tuberculosis, 36.
  Occupational Therapy, 153.
  Pulmonary, 36.
Twilight Outdoor Exercises. Voluntary, 128.
Tyson, 29.

U

United States, 2, 255.
  Army, 42, 111, 201.

V

Vacations:
  Supervised, 40.
  Value, 105.
Valeria Home, Croton-On-The-Hudson, N. Y., 227.
Vasomotor Insufficiency, 28.
Vésinet Hospital, Paris, 16, 19, 20.
  City Annex, 20, 21.
Vidard-Dupin, 9, 171.
Vincennes Hospital, Paris, 12, 19, 21, 22.
  City Annex, 24, 25.
Virchow, 71.
Visitors to Patients, 8, 15, 21, 23, 64.
Vocational Training, 132.
Vomiting. Post-Operative, 186.

W

Walter Reed General Hospital, Washington, 41, 114.
  Convalescent Department:
    Efficiency, 115.
    Medical Progress. Contribution, 116.
Waverley, Mass., 29.

Widelius, 5.
Winslow, 70.
Women:
  Convalescent Hospitals, 8, 16, 224, 257.
  With Infants. Provision for, 18, 23, 66, 95, 225.
Wood, J., 110.
Wood, K. M., 226.
Woolen Clothing, 6.
Woolton Hospital, Woolton, Eng., 9.
Worcester, 256.
Work, 129.
  Graduated, 41.
  Patients Sent Back too Soon, 29.
World War. Effects on Convalescent Hospitals, 20.
  Experiences, 2, 41, 42, 111.
Worry. Prevention, 5, 89, 184.
Worster, 29.
Wright, 226.

Z

Zinc Valerianate, 27.

RA
965
B7

MAY 12 1972

RAYMOND H. FOGLER LIBRARY
DATE DUE

DEC 20 1975

DEC 24 1976

RA965.B7 ORO
Convalescence
3 7550 00270929 4